THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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THE FARMER'S HOME IN JUNE

And then behold *the farmer* at his hearth,
Planning the duties of the coming morn;
How one shall wield the axe or spade the earth,
Another's task to till the tender corn:
Around him sit the peaceful household train;
And he, by Nature's right, their guide and head.
Than this, what juster power, what higher reign!
The lads marked well whate'er the father said,
By his experience taught, and by his wisdom led.

THOMAS C. UPHAM, *in American Cottage Life.*

JOYOUS, fresh, inspiring Month of June! No days in the year display more manifestations of Divine wisdom and power. None present more evidence that the country and the farm are the places where health, usefulness, and happiness may be found. With the poet quoted above, we agree, that there is no place where one can exercise a juster power, or enjoy a higher reign. Some of the most instructive and inspiring scenes of life, we have witnessed in the family and surroundings of the farmer's home; where industry and frugality, coupled with an undoubting trust and faith, blunted the sharp edge of life's trials, and brought all into harmony with the peaceful and lovely aspects of external nature.

In his charming book, the "Mirror of the Months," the author says: "Summer is come—come, but not to stay; at least not at the commencement of the month.

"Spring may now be considered as employed in completing her toilet, and for the first weeks of this month, putting on those last finishing touches which an accomplished beauty never trusts to any hand but her own. In the woods and groves also, she is still clothing some of her noblest and proudest attendants with their new annual attire. The oak until now has been nearly bare; and, of whatever age, has been looking old all the winter and spring, on account of its crumpled branches and wrinkled rind. Now, of whatever age, it looks young, in virtue of its new green, lighter than all the rest of the grove."

Nature's book, in June, should be our constant companion. It is one that can make "every man his own poet" for the time being; and there is, after all, no poetry like that which we create for ourselves.

But we must not pause now to give more than a passing moment to sentiment. What has already been done in the spring work will be in vain, unless the springing crops are faithfully attended to. The soil must be kept light, weeds destroyed, and all superfluous plants carefully taken away. Very much de-

pends upon this in nearly all the crops. The Indian corn will produce more grain with three stalks to a hill, than with six, at the common distances at which hills are placed. The small grains—especially on rich ground—will yield a larger crop of the seed when thinly sowed, than where a thick seeding has been given. Carrots, beets, and indeed all the root crops, yield more abundantly when they have ample room, than if crowded. In a crop of Swedes or mangolds, twelve inches apart will give a better return than six or eight inches will; there will be more pounds of roots to the acre.

This holds true in fruits as well as grains and roots. Especially is this the case with grapes, pears and peaches. In raising grapes under glass, no success would attend the effort, unless the most severe thinning out were resorted to. To take away *three* from every five grapes in the Black Hamburg variety is scarcely enough. Crops frequently fail to be profitable from a want of proper attention to thinning them.

The most important business of the farm through much of the month of June, is that of cultivating the crops which have been committed to the soil, so that they shall attain the greatest possible vigor and perfection.

Prompt and thorough *hoeing* is the key to these results. Stop the hoe and the profits cease. Nature, kind as she is, will no more carry on the plant to perfection after it has been started, without care, than she will drive the printing press or the factory wheel, after they have been constructed by the mechanic. If there were no weeds, and the earth alone were to sustain the plants, the hoe might rust in idleness; but so long as weeds invade, and the leaves of plants spread themselves to the sun and air for a considerable portion of their food, the hoe and cultivator cannot be dispensed with.

Give the vegetable garden more attention than heretofore. No part of the farm, we think, is more profitable than that which yields all the fresh fruits and vegetables which the family require. Few farmers are aware how much of a bill it would cost to supply the table bountifully with a variety of the fruits and vegetables which ought to be in use through the year. Not only is health promoted by such use, but there is direct and unmistakable happiness enjoyed in planting and rearing, as well as in eating them. By sowing seeds of lettuce, radishes, cabbage, &c., these vegetables may be had until late in autumn.

HAYING.—We must urge upon the reader once more the importance of commencing haying early. Proofs enough of the importance of this have been given in these columns heretofore, so that we need not dwell upon them now. Our observation has convinced us that, so far as *weather* is concerned, the most favorable time for making hay is the last ten days in June, and the first ten in July. As a general thing, also, the grass cut during this period is worth much more than most of that cut later. The evidence, too, is clear that grass cut while in the blossom and cured without much exposure to the sun, is very much more valuable than that cut later, and exposed a part of two or three days to sun and air. Grass cut early and made mostly in the cock, retains more fully the *grass qualities*, and this all stock like better than any other feed.

PRUNING.—From the middle to the last of this month is the *best* time to prune apple or most other trees.

In JUNE—

"The farmer in his field,
Draws the rich mould around the tender maize,
While hope, bright pinioned, points to coming days,
When all his toils shall yield
An ample harvest, and around his hearth
There shall be laughing eyes and tones of mirth."

HOUSING MANURES.

In a late article in the *Boston Journal of Chemistry*, Dr. Nichols says, the fertilizing elements in excrement are mostly soluble in water, and when the barnyards are drenched with it, they usually overflow, and the valuable portions are carried away. This is what every farmer sees and knows, but there is much difference in opinion as to the amount of such loss; many believing it is not great, and perhaps it is not under some circumstances. To test the question, however, one parcel of manure taken from a water-soaked heap and another from a parcel preserved in barn cellar were analyzed, with the following result:—

	Exposed.	*Sheltered.*
Nitrogen	1.35 per cent.	1.88 per cent.
Soluble organic matters	1.78 "	6.22 "
Soluble inorganic matters	2.67 "	3.98 "
Phosphoric Acid	0.20 "	0.29 "
Potash and soda	0.79 "	2.00 "

On this the Dr. remarks:—"It will be noticed that in the nitrogen (ammonia forming constituent,) the soluble organic and inorganic

bodies, and potash and soda salts, there is a loss in the exposed manure, which renders it of less than half the money value of the other. The quality and the preservation of manures supply topics which should be presented to farmers very often, that they may be led clearly to understand the whole subject, and provide against losses, which are of a most serious nature. We shall refer to this important matter again."

For the New England Farmer.

THE GARDEN IN JUNE.

The success and profit of the garden depends more on the attention given to it in June, than in any succeeding month of the season; for upon the rapidity of healthy growth, depends, in a great measure, the excellence of most garden vegetables for the table. How to promote and maintain this growth is an important question. Thorough tillage is more essential than is generally supposed, and this must be the great work of the month. Jethro Tull's theory of tillage was founded on true scientific principles. If one doubts the effects of tillage, it is very easy to determine the question, on his soil, by a little experiment tried side by side. Take two similar parcels of ground; cultivate one in the most thorough manner, comminuting and stirring the soil deep and frequently, while the other receives only ordinary attention, and observe the difference. Still, some varieties of plants should not be forced too rapidly, as their growth may be in a wrong direction, developing the less, instead of the more valuable parts; but generally there is little danger in this direction, providing the seed be thoroughbred. Little good, however, from stirring the soil in wet weather, though hand weeding may be advantageously done at this time, as the plants are less injured than if the weeds are pulled in a dry time. The drier the weather the more beneficial is it to stir the soil, provided the rootlets of the plants be not touched. Liquid manure is most advantageously applied in showery times, just previous to rain or during a moderate shower. Watering once commenced, must be kept up; watering the *plant* effects but little—it is the *soil* that needs moistening, not the surface alone, but that which lies below; if applied to the surface, it compacts and makes a crust; if below, it softens and loosens.

Asparagus.—Too long cutting close may injure the strength of the roots. It is better to cease cutting near the close of the month. As green peas and string beans come, there is less need of asparagus. Give it a dressing of good superphosphate and let it grow.

Beans.—There is yet time for planting both pole and dwarf; if done at once, small Limas will mature by diligent careful culture. Give those already planted frequent hoeing when dry.

Beets.—Long blood and blood turnip may be sown in good deep, rich, mellow soil, any time before the middle of the month, for fall and winter use. Hoe, thin and carefully cultivate early sown. A handy tool, in the absence of a seed sower, for planting beet and like seed is to make a wheel of one or two inch stuff, insert short pins on the outer edge, six inches apart, mount it on a shaft with handle; with this mark out the rows with inch-deep holes for the seed; into each hole drop a seed and cover with hoe.

Cabbage, and all this family of plants, may be transplanted any time during the month for autumn use. Remember the cabbage loves a rich, not over dry and frequently stirred soil. Set the roots deep, half or more the length of the stem down.

Carrots sown the first of the month will make a crop, if the seed be soaked and dried in plaster.

Celery.—Seed may be sowed for the winter crop. Prick out young plants to have a good supply of stocky, well grown ones for transplanting in July. Transplant about the middle of the month, for the fall crop, into well manured drills, four feet apart, trenches a foot deep, putting in three to six inches of manure and mellow the bed well.

Corn.—Continue to plant Crosby's early and Trimbles, for a succession, until the middle of July. Frequent hoeing and encouragement with top dressing or liquid manure is good to induce rapid growth and early maturity.

Cucumbers, Melons and Squashes.—Cucumbers for succession and for pickling may be put in any time during the month. Frames, &c., for protection from insects, should be removed before the plants crowd them. A little encouragement with liquid manure, ashes, plaster, &c., will forward the plants rapidly and often serve to keep off the striped bugs; but a few moments in hand-picking in the morning, while the dew is on, will generally prove successful in keeping them off. Look to the under side of squash leaves for eggs of the squash bug.

Egg Plants.—These require a *rich*, well pulverized soil that is neither wet or dry. Horse manure seems to agree best with the egg plant. Hoe and water frequently.

Insects.—June is the month when insects are abundant and do the garden the most damage. They are as fond of young tender vegetation as their superiors are of good vegetables, and are bound to have their share unless closely watched and destroyed. Whale oil soap, in weak solution, as well as successive flocks of young chickens and turkeys are the best preventives.

Lettuce.—Few varieties do well after hot, dry weather comes on; but late sown may be transplanted into well prepared soil, and with

suitable watering, &c., will form large, nice heads. Seed may be sown in shady, rather moist soil, and yet do well, under good care.

ONIONS complete their growth early; therefore it is important to force growth by thinning and frequent culture. Potato onions, (best of all for the table,) may be planted as late as the first week in June, six to ten inches apart, in rich, fine surface soil.

PARSNIPS.—Seed should have been sown earlier, but may be yet done at once, in deep, rich, mellow soil; hoe and keep the surface mellow, and water with liquid manure.

PEAS.—Sow for late summer use and for seed. Those who would avoid buggy peas, should grow their seed from late planted peas, as the bugs do not trouble if sowed after midsummer.

RADISHES.—Sow the Long Scarlet, in generously rich soil, among other crops, where they will be partially shaded. They will repay watering with liquid manure. Save some of the earliest and best, to grow seed from for future use.

RHUBARB.—Present facilities for canning and preserving, enable us to have a supply of this excellent pie material, the year through. Cut up and dry, bottle or can a good supply for winter, when such a change will be acceptable, and leave no seed stalks to grow.

TOMATOES.—Transplant for main crop. Hoe frequently and pinch in side shoots. Trained to a single stem, tied to a pole or stake, they seem to do best.

TRANSPLANTING.—During June the larger part of transplanting of garden and field plants is done. It is necessary, in order to develop certain plants, that this operation should be performed, and to do it successfully with the least trouble and greatest certainty, the ground should be well prepared as to tilth, fertility, &c., and the transplanting be done during a moist, cloudy spell. It is said that plants removed after sundown and during the night time will not show that they have been disturbed, by wilting, &c., but will retain their freshness.

WEEDS are easiest destroyed by taking them as soon as they appear above ground in a clear, warm day. Those which grow from subterranean roots are more difficult of extermination; but if the stems and roots are persistently cut, dug and pulled off, time will complete their destruction.

VACANT SPOTS.—A good gardener has none; he always finds some plant to occupy all his space profitably. W. H. WHITE.

South Windsor, Conn., 1870.

GOOD FEED FOR GOOD BUTTER.—I once bought a dairy of twenty tubs of butter, all made from the same cows the same season and by the same person. Some eight tubs were good, sound, yellow butter; some eight more of it was very light colored and soft with a disagreeable flavor; some four tubs shaded down from yellow to white, and the color the index of quality. Careful investigation developed the fact, that the good butter was made from good grass feed; and the poor, later in the season, when the grass had failed from drought, and the cows lived upon briars and leaves. A man changed the feed of his cows from corn meal and hay to potatoes and hay; it lessened the quantity of butter, and the color was lighter. Hence the importance of good feed. It is profitable to feed corn meal at all times excepting when grass is new and plenty, and it is not lost then. A piece of land five rods by two, to each cow, sowed with southern corn will supply the deficiency of the pastures in the last of the season for two or three months, and save the mowings more than the cost.—*David Goodale, in St. Johnsbury, Vt., Times.*

MY ROW.

How well I mind when I was young,
With hair as brown as tow;
My father took me out with him,
And taught me how to hoe.

That I might not be overtaxed,
And well fulfil his plan—
I hoed one hill and skipped the next,
And so made half a man.

I then was small, just in my teens,
And full of hope and joy;
Knew little of what labor means,
A happy, farmer's boy.

Ambition seized my youthful breast,
I would not lag behind;
I hoed each row just like the rest,
Until the sun declined.

How glad was I when sunset came,
The hour when labors close;
The joy I felt, it has no name,
As well each workman knows.

Ye sons of toil who wield the hoe,
Or daily speed the plough,
Or elsewhere hoe life's painful row,
With sweat upon the brow,

Toil on I say, there's one grand thought,
Which should encourage you;
Good health and strength cannot be bought,
So let us hoe it through.

—*H. K. Fisher, in American Farmer.*

AYRSHIRES FOR THE SOUTHWEST.—A lady of great intelligence, and of much experience with improved cattle, writes to a friend of the *South Land*, as follows: After an experience of twenty years, the *Ayrshires* have proved to be the only cows able to stand the severity of a Southern summer. The Durham and Devon stock are both liable to fevers, and consequently to a great decrease of milk; but the Ayrshire thrive perfectly even upon the common pasturage of the country. The Devon when mixed with the Ayrshire, make very fine oxen. But for milking purposes, the Ayrshire exceed all others, becoming as hardy as the Creole cows.

BONE MANURE.

ONG as bones have been used as a fertilizer, their effect and operation are not well understood by farmers. It has been supposed that the nutritive properties of bones, when applied to the soil, are rapidly exhausted. This, however, appears not to be the fact. In England, where the actual value of manures is estimated on the basis of experiments, and where exactness is observed in analyses, it has been ascertained that the mineral constituents of the bone—particularly the phosphates—are discoverable in the soil for years after bone manure has been applied, even when the ground has been cropped with vegetables supposed, or rather *known*, to appropriate this manure in what may be termed excessive quantities.

As there are still many who are not willing to grant much efficacy to bone manure, and as it has been sharply criticised on several recent occasions, it is well to present something on the other side of the question, and we, therefore, give below the chief points of a paper on the analysis of the soils of a farm in England, the property of, and occupied by, C. H. T. Hawkins, Esq. Its object was to test the durability of bone dust as a manure, for a period of ten years.

It appears that a piece of waste ground was broken from a common and tilled in turnips, the larger part of which was manured with bone-dust, at the rate of twenty-four bushels to the acre. In the two following years it was successively cropped with oats, and with the last crop laid down to permanent pasture, in which state it has remained ever since.

Ten years after the application the effect of the bone-dust could be plainly distinguished—the grass, as far as the eye could reach, having a rich sward; while the adjoining part, where no bone-dust had been applied, had a coarse, sterile appearance; the difference being as great as if a line had been drawn between rich pasture, and scanty, coarse herbage.

Samples of these two divisions of soil were sent to Mr. HUNT, then curator of the Museum of Economic Geology, to be analyzed, in order to ascertain if the bone could be detected after the lapse of *ten years*. Mr. Hunt, it should be here observed, was altogether ignorant of the object of the analysis. The result, however, was perfectly satisfactory, inasmuch as he readily detected the bone in that portion of the field on which it had been applied ten years before.

The following are the analyses:—

Substances	*No.* 1.	*No.* 2.
Water evaporated by stove,	14.06	14.18
Vegetable and animal matters burnt off,	12 01	12.05
Silica and Silicious grit,	49.54	49 50
Oxide of iron,	7.03	7.00
Carbonate of lime,	1.05	1.06
Carbonate of magnesia,	0 25	0.35
Sulphate of lime,	1 05	1.04
Muriates,	0.54	0.54
Alumina,	7,10	6 04
Phosphate of lime,	0.10	0.75
Phosphate of magnesia,	0 00	0.05
Potash,	1.00	1 27
Humus and soluble alkalies,	6.00	6.17

It was deduced from these experiments, that the principal manuring properties of the bone existed in the earthy matters, which constitute about two-thirds of the bone, and not in the oily and gelatinous parts, constituting the remaining third.

The bones of animals are derived originally from the hay, straw, and other products of the soil which the animals consume as food. More than one-half the weight of bones consists of the phosphate of lime and magnesia, "Upon every acre of land appropriated to the growth of wheat, clover, potatoes or turnips, forty pounds of bone-dust will be found sufficient to furnish an adequate supply of phosphates for three successive crops."

It is hardly a fair experiment to use bones once or twice, and form an opinion upon their merits, whether the experiment succeeds or is a failure. There are certain atmospheric, or other conditions always affecting the manures applied. We have known persons use *guano* from the same bag, one of whom found decided advantages from it, while the other declared he "would not team it twenty miles for it." The same results have occurred in the use of bones, superphosphate of lime and other fertilizers. In order to form intelligent opinions with regard to special manures, we must apply them on *different* soils, cultivate the crops where they are applied precisely as those are where manure is used, and then carefully compare results.

The compounds put off upon the farmer as fertilizers have proved of so little value that hundreds are discouraged from using anything in the form of compact manure. Many of these special articles are a compound of "villainous smells," too disgusting to become common on the farm; they ought to be two feet under it. The article called superphosphate of lime is usually nauseous to a high degree. It ought not to be so, and probably would not, if it did not contain rotting animal matter in some form. This odor affords olfactory evidence that the article is not a pure one; that it contains matter that is not worth one-quarter part the price demanded for it. We hold in our left hand, now, while writing, a ball of nearly pure superphosphate of lime. It is as harmless as a ball of wax, and instead of being disgusting, its odor is pleasant.

For the New England Farmer.

THE FLOOD IN NEW HAMPSHIRE.

House and Barn Cellars full—Liquid Manuring—Farm Implements and Sitting Hens take a Bath—Freaks of Brahmas—Hints on Irrigation.

This rainy morning, I catch up my pen to say, that after an absence of nearly three years from the farm, my hand is again at the plough, or will be as soon as the weather and season permit. But the rain, how it has come! And the melted snow, how that has come down from the hills and woodlands, and filled the streams with mighty rushing waters, which have poured down rivulet and ravine, and flooded everything, higher up than any old high-water mark. Wells are full to overflowing, house cellars have become cisterns, and the barn cellars—what a plight they are in. A system of bailing and draining has been going on never before experienced. We shall see what effect liquid manure has upon the crop with which it may come in contact, as it has been poured out from the drenched manure heap, by ladle and drain. Perhaps we may get an experience that will lead us on after Alderman Mechi, and cause us to adopt his plan of liquid manuring. We shall see. We are driven, sometimes, by the force of circumstances, into a "corner," and thereby make important discoveries.

It would have been amusing, no doubt, could you have seen the plight many of us farmers were in at the height of the late flood. Pigs were wallowing in the poached manure pile; carts and wagons stored in the cellar as a safe and *dry* place, were axle deep in water; ploughs, harrows and cultivators were in water deep enough to swim them, had they not been too heavy; and the poor hens that were so unfortunate as to be sitting in what was supposed to be a safe and dry place, were gradually reminded that they must leave or be submerged, together with their hopes of a future brood of little chicks, in the rising flood. There was a hurrying to and fro in hot haste, in attempts to save next autumn dinners from being cheated of the boiled or roast chicken. But with the fancy or whim that hens have of late, most of their labor must be in vain, for they set, or *wont set*, just as they please. Two of my nice, clever, social, agreeable, companionable Brahma young ladies were each indulged with a nest full of eggs, brought from a distant farm-yard, because it is thought best to change eggs for hatching, with our neighbors, even if we get the same breed. They behaved very lady-like, and appeared very motherly for nearly two weeks, and then without applying for leave of absence, they walked off and forgot to return till the two nestfuls of eggs were cold as snow balls. But they soon showed a disposition to reset, and they are in full blast again, but so encompassed with barriers that they can't get out of remembering distance of their nests. We shall see what will come of them. But I find they are so careless they have broken some of their eggs. Hens don't do now as they used to, when they would lay, set and hatch without tending. As things now appear, there must be professional chicken doctors and nurses, so far have we wandered from the old track. This is all right, perhaps, for the more our circumstances force us to study and labor, the more perfect is the character, on the principle that idleness begets moral disease.

But letting alone morals and philosophy, and going to facts, the results of this spring flood should induce many farmers to pay more attention to irrigation. Let the results of flooding be noticed the coming season. If not mistaken in my own experience, many will be the extra tons of hay grown from the overflowing of meadows. To secure the advantage in future, let dams be so arranged in the brooks that at high water the grounds shall be flooded, and then the water gradually run off.

Excuse this hasty line, for I must here put in the (.) and haste to the station.

Yours for the farm, Z. BREED.

Weare, N. H., April 25, 1870.

For the New England Farmer.

MEDICAL TOPICS.

BY A MEDICAL MAN.

Health and Disease.

The human body is composed of solids and fluids, and when the former perform their functions properly, and the latter retain their normal purity, the body is in a state of absolute health. But this perfection of health is ideal; it never actually exists. An examination of the bodies of the healthiest persons would, doubtless, reveal derangements of some

kind. In short, health and disease are so imperceptibly merged into each other that the line of demarcation cannot be drawn with precision. The same is true of other departments of knowledge. It is not easy, for example, to settle the boundaries of the animal and vegetable kingdoms, and yet there is rarely any practical embarrassment in distinguishing an animal from a vegetable. So with regard to health, if an important disease of any kind exists, the fact of its existence is, in most cases, sufficiently obvious.

A disease is called *organic* when some change of structure or of composition has taken place in one or more of the organs, and *functional* when only the function or action of an organ or of organs is deranged or suspended. The same disease may be either *acute*, *subacute* or *chronic*. A disease is acute when it has a certain degree of intensity, and and runs a rapid career. As a general rule, persons suffering from acute disease are confined to their beds. A subacute disease has less intensity, does not compel the patient to keep his bed, and does not always prevent him from being about, or even pursuing his usual occupation. A chronic disease is one which is subacute in its character, slow in its progress, and protracted in its continuance.

Again, diseases are either *constitutional* or *local*. A constitutional disease is one in which several or all of the organs are affected, and in which the fluids of the body are more or less depraved. A local disease is one which is seated in a particular organ, and does not necessarily affect the general system.

Another division of diseases is one which has reference to the manner of their occurrence. Thus, diseases which affect many persons at the same time are called *epidemic* diseases; those which are peculiar to the inhabitants of particular countries or sections of country are called *endemic* diseases; and those which arise from occasional causes, as cold, heat, fatigue, &c., are called *sporadic* diseases. Diseases which are propagated by the miasm or effluvia emitted from the bodies of persons affected with the same disease are called *infectious*, and those which are communicated from one person to another, by contact, are called *contagious*. Some diseases are both infectious and contagious. *Hooping cough*, *measles*, &c., are infectious; *itch*, *syphylis*, &c., are contagious, and *small pox* is both infectious and contagious.

There was formerly much discussion among medical men relative to the seat or starting point of disease. Some held that in all general or constitutional diseases, the primary affection is in the *solids* of the body,—these were termed *solidists*. Others contended that in such diseases the *fluids* are primarily affected, and such were called *humoralists*, or advocates of the *humoral pathology*. The modern and, doubtless, the true doctrine is that in all constitutional diseases, both solids and fluids are affected, and that either may be the seat of the first morbid action.

The causes of disease will be the subject of our next article.

An Experiment in Curing Hay.—Last summer I took four men and went into a piece of good herdsgrass and clover, when it was about fit to cut, and just after the dew was off. I mowed about four tons. In three and a half hours it was stowed away in a space of twelve by twenty-four feet, on scaffold. On two sides it was double boarded, on one end was a mow of hay, on the front or floor side, it was exposed to the air; on the bottom and top was put about one foot of swale hay that was worth about two-thirds of the value of good hay. The result was I lost all the good hay, and it would have been worth sixty dollars. The swale hay was to take up the moisture, as I supposed. It steamed from internal heat for about four months, and when I took it out it was a mass of white useless stuff, completely burnt up. The ashes filled the barn every time that I pitched it over. Neither cattle nor sheep would eat it, except a little that was around the sides next to the barn, and on the floor side. The mow end was just as bad as that in the middle. This satisfies me that it is an impossibility to have good hay without first making it in the sun and air.—*P. Dinsmore, in Maine Farmer.*

Club Root in Cabbage.—In a letter to the New York Farmers' Club, G. Pitts, Honeoye, N. Y., attributes the disease to "a small white maggot that eats off the rootlets of the plant, thus preventing nourishment." He destroyed the maggot by removing the surface earth and sprinkling on a little dry copperas and replacing the loose soil. The plant soon revived, the heads developed as usual, and he has been troubled no more with the club-rooted cabbage. Philemon Farrell, Greenfield, N. Y., also writes that he destroys the maggot by the use of strong pork or fish brine. When he discovers the cabbage affected he makes a saucer-shaped hill about the plant and turns from a gill to a half pint of brine upon the roots, and rarely has to make a second application.

About Manures.—Manure is never so valuable as when it is fresh. It then holds in association not only all the fixed soluble substances natural to the solid excrement, but much that is of great value, found only in the liquid. It is in a condition to quickly undergo chemical change, and the gaseous, ammoniacal products secured are double those resulting from that which has been *weathered* in a heap, out of doors for several months.—*Boston Journal of Chemistry.*

MEMORY AND SAGACITY OF A HORSE.

The fact that the horse has memory and sagacity in a wonderful degree, is proven in the incident which the above engraving illustrates. A gentleman returning from a journey on horseback, to Oxford, Pa., last fall, met a stranger travelling in like mode, with whom he engaged in a desultory conversation. Thinking the stranger's horse looked familiar, he remarked that the animal was probably one which had been stolen from him six years ago. To settle the matter, he made the following proposition:—"When we arrive at my house, your horse shall be tied to the east post in front of my door—the horse I am on, to the west post. After standing a short time, the bridle of your horse shall be taken off, and if he does not go to a pair of bars on the west side of the house, pass over and go round to the east side of the barn and pull out a pin, open the middle stable door and enter, I will not claim him. If he does, I will furnish you conclusive evidence that he was bred by me, but never sold—that he was stolen from me about the very time you say you purchased him." The traveler assented to the trial. The horse was hitched to the post proposed—stood a few minutes—the saddle and bridle were taken off—he raised his head, pricked up his ears, looked up the street, then down the street, several times, then deliberately and slowly walked past the house and over the bars and to the stable door, as described, and with teeth and lip drew out the pin and opened the door, and entered into his own stall. We hardly need to add, he was recognized by the neighbors of his rightful owner, who fully attested to the facts stated by the claimant, and that the traveller lost his title to the horse.—*Rural New Yorker.*

REMEDY FOR RUST IN WHEAT.—The following, from a distinguished German Agriculturist, is taken from a Bremen paper:—For thirty years I have found this method successful in preventing rust in wheat:—Some hours, at the longest six or eight, before sowing, prepare a steep of three measures of powdered quick-lime and ten measures of cattle urine. Pour two quarts of this upon a peck of wheat, stir with a spade until every kernel is covered white with it. By using wheat so prepared, rust of every kind will be avoided. I have often noticed while in the neighboring fields, a great part of the crop is affected by rust, in mine, lying close by it, not a single ear so affected could be found. The same writer says he takes the sheaves and beats off the ripest kernels with a stick, and uses the grain thus obtained for seed.

DAIRY FARMING---ROOT CULTURE.

VERMONT, Massachusetts and New York dairymen held conventions about the middle of last January. Notices of these meetings, held respectively at St. Albans, Vt., Hardwick, Mass., and Utica, N. Y., so completely occupied our columns at that time, as to prevent us from calling attention to several points of special interest in them.

In the Vermont meeting, the address of Hon. E. D. MASON was appropriate and highly attractive. His remarks upon the benefits which spring from *associated effort* were very encouraging, being full of practical suggestions in regard to the subject before them. He said, in closing, "Let us strive to place our dairy products as high in the markets as Merino sheep and Morgan horses. Then will plenty and comfort reign throughout our borders; then will be that time we have so often read about, 'The good time coming.'"

Selection of Cows.

The Hon. HENRY LANE, of Cornwall, read an essay on the Dairy, in which he said the first and most important question for dairymen to consider is the selection of his cows. The great secret of success, after obtaining proper animals, is to keep them well fed. Cows will give more milk on fresh grass than on any other kind of feed. But grass in our pastures begins to fail early, and something must be substituted in its stead. *Corn will supply this want for one or two months in autumn.*

Root Crops.

Dairymen should turn their attention to the cultivation of root crops. Cows require a change of food in order to assist the digestive process; and thereby will keep in better health and eat coarse fodder cleaner.

But what is the best root crop? The market value of the potato is too great to make its use for feeding stock profitable. The turnip and carrot are perhaps best for young stock, but they cannot be raised at the present time with profit. The sugar beet has taken the place of the carrot in Addison county. No root, Mr. Lane thought, will produce so much and so rich milk as the sugar beet. The best crop he had ever seen was grown on clay soil, containing twenty per cent. of sand. The land for the sugar beet should be rich, and it may be grown on such land for thirty years in succession. The "*American Improved Sugar Beet*," is far superior to any other sort. Early sowing is the best, as a difference of ten days in sowing may make a difference of ten tons in the product. He said twenty-eight to thirty-two tons per acre is a common crop in Vermont, but by high culture may be made to yield fifty to seventy tons per acre. Its feeding value is in the ratio of 100 pounds to one hundred and fifty pounds of hay. Its great value as food for swine as well as cattle, makes the subject one which may well engage the attention of all dairymen.

Mr. Lane stated that the cost of raising the sugar beet is about *eight cents* per bushel; that the product of an acre will feed twenty-five cows eight weeks. Four pounds of seed to the acre is required. Sow in rows two and a half feet apart, and the plants eighteen inches apart in the rows. The labor has been the great bugbear in root culture. If rightly sown, the principal labor is in the thinning. The horse cultivator will do the rest and should be used often. The seed should be sown just as early as the soil can be well prepared in May. Store hogs winter well upon sugar beets.

Having visited Mr. Lane's farm, and noticed the evidences of skilful and intelligent cultivation in all that we saw, we find pleasure in commending his opinions and practices to the readers of these columns.

The President, Mr. MASON, thought beets were excellent for hogs and better still for cows. A bushel a day and one ton of hay for the winter are better for a cow than two tons of hay without the roots. They are as easily cultivated as corn, if proper care be taken at the outset. They are more profitable for a milch cow than any other crop, unless it be *green corn in August*.

Messrs. O. S. Bliss, Col. J. B. Mead, of Randolph, Edward Clark, of St. Albans, A. R. Bailey of Elmore, and H. E. Seymour of St. Albans all approved of root culture.

—The *Gardener's Magazine* (London,) mentions that in the department of Vaudois (France,) out of 60,000 acres of vines, 20,000 acres have been utterly ruined by what is called the "vine disease," and that the loss in some districts has been even greater than this, so that many entire plantations have been grubbed up and planted with other crops.

WASHING SHEEP.

The subject of washing sheep and putting up wool for market was recently discussed by the Westminster, Vt., Farmers' Club, and a report published in the Bellows Falls *Times*.

A. Atcherson, G. W. Newcomb, Henry Page, favored washing sheep, and thought by doing so they obtained more money for their wool.

F. Arnold, J. B. Morse, N. Fisher D. C. Wright, J. V. Farr, J. Phelps, recommended the abandonment of the practice.

Henry Page washes his sheep, and shears in four to six days afterwards. He knew nothing of shearing in the dirt. He thought the question of washing or not washing depends mainly upon the breed of the sheep one keeps. He would wash as early as possible, and as the sheep come from the water, would squeeze as much of the water from the wool as possible, to lighten their burden, and to enable them to dry sooner.

Mr. N. G. Pierce, who did not express a positive opinion either way, thought there was no doubt that more money would be realized for the wool if washed, as it is now sold, but he was inclined to agree with those who estimated the damage to sheep at half a dollar a head. He had made up his mind either to shear early in dirt, or late and wash well. Sheep with oily wool should not be washed. Others were less injured by washing.

J. B. Morse said he did not believe it is natural for sheep to be put into the water. They hate the sight of it. It injures them, and if sheared late, they come up not looking as well in the fall, and don't winter as well. He spoke of the trouble of getting up and washing sheep in a busy time in the season, and thought it would be better for *all* to not wash; less expense—more healthy—better sheep—better wool.

Nathan Fisher, for many years, washed his wool well, but the buyers would pay him no more than they did others who washed poorly. But for several years past he had sheared his wool in the dirt. Shears some three weeks before turning away from barn in spring. Their wool in that time starts, and their bodies become felted over, shedding the rain, and standing the storms almost as well as those with wool upon them. One of his neighbors sheared part of his flock in April and part in June. The former stood spring rains best, and came to the barn in the fall in much the best condition. Sometimes he loses a few in spring, but seldom. He understood that the manufacturers like the unwashed wool quite as well. It is true that sheep after they are sheared in spring will consume considerable more hay. But he thought it much the best way to shear in April, and in the dirt. The buyers do not make the discount which they used to, which was one-third, now in this section thirty-three cents to forty. He believed he gets more wool from unwashed sheep, for some will be lost in the pasture. Wool will appear better when protected from storms, and I think if all were in the habit of shearing in the dirt we should realize more money.

D. C. Wright thought it best to shear in April, unwashed. He knew of an instance where two flocks of sheep were out in a spring storm. One flock was sheared about three weeks before, and the other was with the wool on. The former stood the storm best. The unsheared remained wet so long they could not recover readily, and the early sheared came to the barn in the fall in far the best condition. Manufacturers had told him that they preferred unwashed wool at one-fourth discount in weight.

In this discussion several members spoke of the injurious effects of washing, on the health of sheep; but no one alluded to its effects on the health of those who perform the operation. To our own mind this is by far the most important consideration. We believe that more colds, fevers, consumptions, rheumatisms, &c., result from this than from any other exposure to which farmers are subjected, notwithstanding the free use of the bottle of grog which, in our day, was always provided for the occasion. We do hope that the annual ducking of men and sheep in the cold water of our mountain streams in the spring of the year will not be continued much longer. We believe the wool can be cleansed at the mills much more advantageously.

AGRICULTURAL ITEMS.

—America consumes nearly one-third of the coffee production of the world, and nearly seven times as much as the inhabitants of Great Britain.

—In one of the packing houses in Illinois, recently, 480 hogs were slaghtered in one hour and 2680 in nine hours and ten minutes.

—A correspondent of the *Mirror and Farmer* mentions late cut hay as a cause of cattle gnawing boards and bones.

—H. T. Gates, at New Worcester, has a turkey that carries a feathered crest on its head, and when it "gobble, gobble, gobbles," opens and sports it like a peacock. It is a rare bird.

—A correspondent of the NEW ENGLAND FARMER, at Fishville, R. I., writes that wens on cattle may be cured by washing them twice a day for a few weeks with strong soft soap.

—The Executive Committee of the Massachusetts Agricultural College have employed Mr. John C. Dillon, of Weston, as Superintendent of the Farm.

—Brick-dust, obtained by rubbing two soft bricks together, is the best remedy for lice on stock, says a correspondent of the *Western Rural*, that he ever tried. Sift the dust evenly over the animal and work it well into and among the hair.

—The *Alta Californian* says that many grape vines in that State grow to a great size. One at Montecito, Santa Barbara county, now 74 years

old, and 19 inches thick in the trunk, yields from 6000 to 8000 pounds of grapes annually.

—The *Hearth and Home* in reply to a correspondent who asks, shall I buy a Jersey cow? replies by saying there is little risk in buying a healthy young Jersey cow, if her cost does not range much above $250.

—There are 12,000 windmills in constant use in Holland at the present day, for the simple purpose of drainage. They are almost of colossal size, each lifting from 10,000,000 to 50,000,000 gallons of water every twenty-four hours.

—Brazil is the greatest producer of coffee, furnishing the article known in the market as the Rio coffee to the amount of 400,000,000 pounds yearly, or more than one-half of what is supplied by the whole world, viz: 713,000,000.

—The people in the northern part of Dupage county, Ill., are putting their farms in their pockets. The Wheaton *Illinoisan* reports sales of nearly $30,000 worth of real estate in a week. In Jaspar county, Illinois, during the year 1869, over 80,000 acres have changed hands.

—Mr. John T. Alexander, of Illinois, who grazed last season, 7000 head of Texas cattle, informs the Springfield *Journal*, that he has found it a losing business, and that hereafter he will give the Texas long-horns the go-by, and graze and feed none but native cattle.

—At a recent term of the Criminal Court of Chester Co., Pennsylvania, a man "charged with having obnoxious weeds on his farm, and allowing them to grow, to the great damage of his neighbors," was found guilty and sentenced to pay a fine of $10 and costs of prosecution.

—Last summer was so unfavorable for the production of honey that the bees in Berkshire county could not gather enough to carry them through the winter. Peregrine Drew of Pittsfield, has lost all but one out of 19 swarms. John Barnard all but three out of twenty-five swarms.

— At the West where timothy raised for seed is stacked up as soon as cut there is a dust or some emanation from the hay while threshing which causes severe headache, loss of appetite, nausea, and feverishness, while that which is weather-beaten before it is stacked does not produce these results.

—The rise of sap in trees and plants has been explained on the principle of capillary attraction, but M. Becquerel considers that electricity is an acting cause. A capillary tube that will not allow water to pass through it, does so at once on being electrified, and he considers that electro-capillarity is the efficient cause of sap travelling in vegetable life.

—Those who think our cultivated lands must grow poor as they grow old, will find food for reflection in the fact that not many years back, the average yield of wheat per acre in England was about ten bushels—it is now over thirty bushels. The result of better economy of home-made manure and the extensive use of imported fertilizers.

—What stupid fellows farmers must be in the eyes of the *American Stock Journal*, which says, "we can go into a dairying neighborhood, and point to farmers who are losing from two to three thousand dollars by keeping cows yielding two hundred pounds of butter per year, instead of those that would yield from *five to six hundred pounds* in the same time."

—The Lee, Mass., *Gleaner* says that the dairymen of New Lenox have decided to establish a cheese factory in that town and the stock for this purpose is pretty much raised. It is proposed to put up a building with fixtures costing $2500, and the shares are put at $100 each. In Lenox village also the money for a cheese factory is subscribed; the shares in the latter factory are $250 each.

—A correspondent of the *Mirror and Farmer*, says that the ice of frozen sap is not worth saving; that as some trees give much more sap than others, it is a good plan to have tubs of different sizes; that sugar stirred dry is the most profitable; that the sooner sap is boiled the better; that a damper in the chimney of the arch saves much heat; that trees should be tapped on the south or westerly side; that tubs and holders should be perfectly sweet, &c.

—An agricultural paper printed in a New England city can see but one cure for the high prices of beef, butter, flour, pork, fruit, &c., and that is "The people must form strong combinations of their own in opposition," as "the consumers have something to do with the laws of trade." Such a movement will require a leader and an organ; but notwithstanding the apparent earnestness of our contemporary, we must hope that a "leading agricultural paper" will not volunteer its services in either capacity.

—The cheese factory at Rochdale, Chenango county, N. Y., has been rented by a company who propose to make both butter and cheese and to adopt the plan of buying the milk of farmers, instead of manufacturing it on the usual co-operative system. The *Utica Herald* says, if the manufacturers discriminate in the purchase of milk between the rich and the poor grades, the system would be an improvement in point of justice upon the present one; but the question would still remain as to the satisfaction such a method would give, and consequently as to its success.

—C. Hills, of Delaware, Ohio, writing to the *Western Farmer*, says:—"The long wools, Leicesters, are being rapidly introduced into our State, and are largely used now for crossing upon merinos. They cross well upon good sized fine wools; the produce being of good mutton carcass, maturing early, and producing a sort of wool usually called DeLaine; fleece of about six pounds, and commanding as much in market as the best XX

merino. Many of the second and third cross would be taken for pure breed by casual observers."

—Whether hogs require sulphur as an essential to their health, or whether it is sought by them as a condiment, may not be known for certainty. But one thing is sure, they devour it with greed whenever it is to be found. It is for this purpose, probably, that they eat large quantities of soft coal, which contains a large amount of sulphur. Perhaps this is the economical method of supplying hogs with sulphur during the winter, when they require a good deal of carbon. But in the summer it is better to feed it to them in substances which contain less carbon, on account of their producing less heat.

For the New England Farmer.

FLOWER GARDENING FOR APRIL.

Perennials and bedding out plants, sunny skies, and warm showers are inviting forth the lovely flowers. There is much work at this season for the amateur florists.

All perennials which were not transplanted last year, should be attended to now, before they have made much growth. There are few more desirable flowers than what are found in this class; yet one hears frequent complaints of their dying out. "They do not grow as they did when we and they were young." Why is it? The reason is obvious, *they are starved*; they require new quarters; transplant them; dig a copious supply of manure into their new bed; or sprinkle three or four table spoonfuls of superphosphate about their roots and you may be sure that they will fully repay your care. Many a perennial stands at this time where it was placed twenty or more years ago. Is it to be wondered at that it dies out; dwindles away?

We are the happy possessors of a large bed of perennials—these are *Dicentra Spectabilis, Lychris, Phlox, Pinks, Achillea, Campanula* and many others. Every spring as soon as the ground is entirely freed from frost, every root is dug up and placed under a shade, with a good large body of earth around it. (A white *Pæony* and the *Dicentra* are not molested; their roots will not flourish as well if disturbed in the spring.) A liberal supply of barn yard stimulants is then thoroughly mixed into the soil. The bed is raked over smoothly, the roots all put back, and soon they experience the good effects of the newly prepared soil, and are "a thing of joy and beauty." No plant life can be sustained without food suitable for its wants. We find that superphosphate makes an excellent fertilizer for all our out-door pets; it invigorates them as finely as a decoction of guano does our "window gardens." But alas, it is terrific to the sense of smell; sickening, horrid. Yet last year we dug it into the ground at a great rate, until a neighbor hard by thought we ought to be indicted as a nuisance. We carried it in old six quart tin pans, and dug it in with a three pronged iron fork, taking great care not to touch stem or leaf of shrub or plant. It does seem as if it might be manufactured of a less obnoxious odor. Guano is not half as disagreeable to handle; but we must use it and endure it. *Moss roses* grow superbly under its beneficent influence. *Geraniums, Heliotropes, Verbenas*—all, will thank you by exceeding growth and beauty for the desired fertilizer.

At this season of the year many plants can be raised from cuttings with but little trouble. All the varieties of *Pelargoniums, Zonale Geraniums, Double Geraniums, Heliotropes, Verbenas*, and many other kinds too numerous to mention, will strike root quickly and grow rapidly. All of us possess friends who are willing to give us cuttings and roots; so that money is not essential to the attainment of a glorious garden. A cutting will be more apt to grow if cut from a portion of the plant which has both old and new growth of stem and leaves. *Heliotropes* and *Verbenas*, &c., which have fresh, new leaves just starting forth, will rarely fail to grow. Geraniums strike root so quickly that no one can fail to make them grow if they are properly planted. It is said that these plants are of such a quick growth that if a branch is half cut through in summer time, it will send forth tiny fresh rootlets, the cutting being supported by the sap which runs through the undivided half of the branch. We intend to try the experiment this coming summer.

It has been ascertained that a cutting will develop roots much sooner in moist sand than in rich soil, but the sand cannot maintain its growth for any length of time. To prepare pots for raising cuttings they should be filled nearly to the brim with rich, garden loam—dark and porous, not clayey and soggy; then pour in one inch in depth of scouring sand—sea sand will do as well as the yellow sand. Wet this thoroughly, and place the cuttings, from which all but the three or four upper leaves have been removed, close to the side of the pot; the contact of the ware against the stem of the cutting promotes its growth. Press the wet sand *firmly* around the tiny stem. A great deal of your chance for success in raising slips or cuttings depends upon this. Plant as many cuttings as the pot will hold, from six to a dozen according to the size of your pot; when they are firmly set in the sand two or three can be inserted in the middle of the pot. Set them away in a dark warm place for twenty-four or thirty-six hours. If you can put a glass shade over them to concentrate the moisture, you will greatly expedite their growth. Thus cuttings will grow very quickly in a hot bed, because the temperature is not dry. Their growth depends a great deal upon light, heat and moisture. If a bud is close at the base of a cutting it will strike root more easily—is not so apt to decay. The roots all shoot from a bud, and the lower down it is the surer your success. When the leaves drop the plant is commencing to grow; if they wither on the stem it

has began to decay. By following these directions no one can fail to grow all kinds of house plants. Roses, and all the rarest flowers of the green houses are propagated in this manner. No tree, shrub or plant but can be increased by this simple process.

The *variegated leaved plants* are most easily propagated; they are all soft-wooded and will grow as quickly as a potato. They are gaining in popularity every year; their lovely leaves are such excellent imitations of gorgeous flowers, and are really indispensable for bouquets and vases. A *variegated Rose-scented Geranium* — Lady Plymouth is one of the rarities of the season. Its leaves are distinctly marked with white; and there is a new Sweet-scented Geranium, *Dr. Livingstone*, which possess exquisite foliage for bouquets. The *Ivy-leaved Geraniums* are rapidly coming into favor. They are well adapted for rustic baskets and vases, also for rock-work. The *Holly Wreath* has deep green leaves with a creamy margin and snowy white flowers. *L'Elegante* is beautifully and purely margined with white, gradually assuming a pinkish tinge. Twenty-five cents currency is all that some of our florists ask for these lovely "*novelties*," and if one dollar's worth is ordered, they will send them free by mail, thus bringing them as it were to one's garden for but little cost.

The new gold and crimson colors are rarely beautiful. They are of the richest tints of bronzy crimson; brilliant as a shot silk, and every leaf is margined with yellow. *Queen Victoria* has a golden beaded edging, bright crimson centre. *Princess Royal* a rosy crimson centre, with narrow margin of yellow. *Albert Victor*, a bronzy red centre, shot with a purplish red and a broad golden edge.

Description fails to do justice to these rare gems; they must be seen to be appreciated. They are all of English culture, and are offered this season at the Innisfallen Greenhouses for 30 cents currency, or $1 for five different varieties. Of themselves they would form a glorious garden, and certainly a cheap one. There is a good deal of confusion in the minds of some amateur gardeners with respect to what are *Geraniums* and what are *Pelargoniums*. The *Geranium* was so named by Linnæus from *geranos*, a crane, on account of the termination of the carpels, bearing some fancied resemblance to the bill of that bird. Several species of Geranium grow wild in England, and there is a purplish pink wild Geranium familiar to all lovers of wild flowers in New England; but the rarer kinds have been brought from other countries and naturalized in our green houses and windows. The florists have hybridzed them, and produced all the exquisitely beautiful varieties we now cultivate. To their untiring assiduity we are greatly indebted.

The *Pelargoniums* are all strictly exotic; they are named from a supposed semblance of their capsules to the bill and head of a stork, the Latin of which is *pelargos*. They are placed in the same class of the Linnæan system as the *Geranium*; but it belongs to the fourth order, while the *Geranium* is of the sixth. These species have been frequently hybridized, but the flowers are distinctly different, the *Pelargoniums* being much larger and handsomer than the *Geraniums*. These plants are much benefited by close pruning, they are by this process made to grow in a bushy compact shape. After they have bloomed freely in the winter and spring cut off the outer branches, and thin out artistically to improve the shape. A florist thinks as much of a finely formed plant as of its gorgeous flowers. Amateur gardeners do not pay attention enough to this point, and many scraggy ugly plants are seen growing in *parterre* and window.

There is a good deal to be considered in purchasing plants at this season, for however gratifying it may be to have them in full bloom when first bought, it is much more satisfactory to possess those which will last the longest in perfection, especially those which have a succession of bloom. It is never desirable to buy a plant which is offered for sale in its height of bloom. Such plants have been prematurely forced, and after a few weeks their vigor is all gone.

It will take more skill than most amateurs possess to bring them up to their original status. Far better to purchase a plant which is fairly budded, and promises much more beauty than it possesses when purchased. Then you will feel compensated for both the price of the plant and the care you have bestowed upon it. We hope that our farmers' wives and daughters will sweeten their surroundings with a few flowers. The love of them seems a naturally implanted passion without one grain of alloy mingling with its pure metal. The early flowers of spring always bring with them a great amount of pleasure; they are cherished as private friendships. The tiniest child loves the buttercup and the dandelion. We wish that every farm house had its *Pinks*, *Roses*, *Geraniums* and *Verbenas*. They are within the reach of every woman, and will afford her the purest delights. Many of our good housewives raise sage, camomile and colt's foot. Enlarge you beds, dear friends, and plant therein their lovelier and more fragile sisters, which we have described, and you will not regret the extra labor which they will impose upon you. S. O. J.

For the New England Farmer.

ROOTS vs. CORN.

My attention was recently called to this subject by reading an extract from a letter in the *Country Gentleman* written by the venerable John Johnston of New York, in which he says roots can never be raised to a large extent in this country unless wages were as low as in Germany or Denmark.

I was somewhat surprised to learn that such was the opinion of one who for years has been

regarded as authority, in this country, as to the best method of raising, feeding and fattening cattle and sheep for market. His long life, good judgment, and success in that profession to which he has devoted his best talents for more than half a century, has resulted in acquiring a very large amount of practical information, much of which has been given to the public through the agricultural press. But if we demur occasionally to his opinion, it is only assuming a prerogative to which we have a right, especially if we have sufficient evidence to sustain our objection. If we adopt the opinions of others as conclusive without examining the evidence that we can bring to bear upon the subject matter, we are not discharging our duty to our fellowmen nor to the age in which we live. Progress and change are the order of the day, and farming at the present time, especially in New England, requires perhaps more thought, energy, industry and perseverance than any other profession. The great West is pouring in upon us her cereals, her pork and her beef at much lower prices than we can produce them; South America, Australia and other foreign countries, and some of our Southern sister States have flooded our market with wool, and so depressed prices that for the last four years we have received about twenty-seven cents *in gold*, for what brought us forty during the last twenty years preceding the war. With these facts staring us in the face, with high taxes and high prices of labor, it stands us in hand to look about and make the inquiry what shall we do to save ourselves? Availability is the lever by which the politician secures his purposes. Let us try it, and avail ourselves of the circumstances of our situation.

Let us improve every opportunity to enlarge our compost heap, which is the great fulcrum for the lever of availability to pry over successfully. Let us avail ourselves of every profitable means to enrich our lands and to fit them for the production of early roots and vegetables, and such other crops as will not come in competition with those from the West, the South and elsewhere. Our cities and villages furnish us the only channels through which remunerative profits for our products can be realized—early beef, early mutton, early veal, early lambs, early pork, early poultry, early potatoes; early roots, such as beets, carrots, turnips, onions, squashes, pumpkins, cucumbers, &c. To produce these, let us improve every rod of land, clean up every corner. After the first cutting of grass on the dry knolls, turn over the sod and sow with turnips, sifting the scrapings from your barnyard into the drills. The subsequent labor is sowing and trimming, as hoeing is seldom necessary on sward ground. Thus planted the first of July, turnips may be raised at an expense of five cents per bushel and they are less spongy and keep late into the next season. Such roots are now worth from one and a half to two and a half dollars per barrel in our city markets.

But some will say I live too far off from market to sell turnips. Then feed them to your cattle and sheep. They operate wonderfully to give appetite and extend the stomach when feeding corn fodder. Observe the wonderful change that has taken place in the form and size of our cattle and sheep during the last half century. How has it been brought about? By commencing with our calves and lambs, and giving them better feed, with roots, &c., by which their stomachs are properly distended, and a noble form secured.

The raising of roots need not interfere with our common farm operations. Sow English turnips after the last hoeing of corn, and scratch in the seed with a light hand harrow with spikes for teeth. It is fun for children to draw them. On good corn ground you will get from two to five hundred bushels per acre, costing less than four cents a bushel. Hogs can be kept in good condition during the winter on Ruta Baga turnips boiled. Leached ashes, lime, superphosphate, as well as many other fertilizers, are excellent for turnips. There is no crop, in my opinion, so easily and cheaply raised as the root crop. After having made it a study for quite a number of years to ascertain the best and cheapest method of feeding stock, I have come to the conclusion that the table of R. S. Fay, of Massachusetts, is about as near correct as any I have met with, though many of the English and German authors have more fully illustrated in what manner the nutritive parts of certain ordinary vegetable products enter into the composition of different animal products.

Thus 100 pounds of hay equal to—

374 lbs	Wheat Straw.	276 lbs	Carrot.
442 "	Rye Straw.	50 "	Indian corn.
195 "	Oat Straw.	54 "	Barley.
153 "	Bean Straw.	45 "	Wheat.
339 "	Mangold Wurzel.	45 "	Peas.
404 "	Common Turnip.	45 "	Beans.
308 "	Swedes Turnip.		

Potatoes are not mentioned in this table, but they are more valuable, in my opinion, than any root raised for feeding purposes. Now, for instance, if 308 pounds of Swedes turnips are equal to 50 pounds of corn, the point is which can we raise the easiest, four hundred bushels of Swedes or one hundred bushels of corn? D. P. STOWELL.

Canton, Me., 1870.

For the New England Farmer.

COMMERCIAL FERTILIZERS AND HOME-MADE MANURES

DISCUSSION BY THE RANDOLPH, VT., FARMERS' CLUB.

W. W. Walbridge.—Fertilizers are simply *plant food*. When, where and how shall we obtain this plant food, are questions of great importance. A supply of material is at hand in our muck swamps and in our wood lots, where an accumulation of leaves and mulch

has been increasing for centuries. If we make diligent use of the means at our disposal, we shall have no occasion to buy commercial manures.

Col. J. B. Mead.—We don't get around to haul in our muck piles, because we do not like to hire help for that purpose when other work drives, but it would be better to pay money for help to draw muck and work it over, than to expend it for commercial manures. I have, however, expended considerable for ashes, and find it pays handsomely. My stocking was never better than after ashes mixed with lime.

Mr. Howe inquired if new stocking should be fed off or left to rot on the ground.

Geo. Tilson.—I cut a heavy crop of rowen after taking off wheat, and then fed it all the fall; next season cut a heavy crop on the same ground early, and after feeding with horses six weeks, cut from one and a quarter acres 136 cocks of rowen. I think superphosphate does not pay; and I know of but one man in this town, where over $10,000 worth has been sold, who thinks it does.

J. J. Washburn.—The reason why we don't make and save the manures, is because there is work in it. Mr. Howard often tells us to save all the liquids, &c.; but he don't do it himself. I have offered him a liberal chance to get musk, but he don't touch the first load. I should run but little risk in offering this village the free use of my muck swamp, only one mile away.

R. Nutting.—Any animal will sufficiently fertilize soil enough to produce food for itself, without deteriorating the soil, if its excrements are all saved, and if no grain, hay or roots are sold. I prefer ashes to any commercial manure, and next to ashes, salt. Make an outlay of money for a single crop to give the manure heap an impetus, and from that crop go ahead increasing.

Geo. Tilson referred to the trial of clover as a fertilizer by Col. Cushman, of Rochester, Vt. Mr. C. bought a worn out farm at a very low price, and in three years raised its value five or six times, simply by the use of clover.

G. F. Nutting.—Muck should be thrown up in summer and covered with boards or slabs, that it may get dry, and then be hauled in winter. No labor can pay us better. By the use of common soil as an absorbent, we simply save what otherwise would be lost; by using muck, we add a positive element of value.

A question, shall I haul out a pile of horse manure by sledding and save time in spring, or put the hogs upon it until I wish to use it? was answered by a majority of the club in favor of letting the hogs work it. C. H. Rowell would say, however, that if used for corn in the hill on moist land, it is better used as it is, and in that way is superior to any other manure. J. J. W.

Randolph, Vt., March 30, 1870.

For the New England Farmer.

MY VIEWS ON CORN RAISING, &c.

The corn crop is, or should be, *the* crop of Massachusetts; if it should be, it may be. The reason why it is so, is its worth in dollars and cents. With one or two exceptions it is the most profitable of all crops. It can be produced for one dollar per bushel. At the same time it is worth thirty-three per cent. above this figure. Strip book-farming of its gaudy trimmings, and let the cultivator exercise his better judgment, and corn raising in our own good State may take high rank among its many profitable callings. From the first landing of the Pilgrims to the present time, it has stood as a beacon light, inviting the sons and daughters of the soil to a happy, pleasant and profitable occupation. The farmer should avoid following the deceitful Jack-o'lanterns which meet us at every turn, and beckon into the quagmire of speculation, and which if followed lead us on and on till our feet settle in the mire of utter discouragement.

The process by which this crop is grown is naturally simple, and should be so practically. A farmer's outfit to commence business half a century ago, did not necessarily cost more than twenty-five per cent. of what it does at present. The laborers on the farm were familiar with all its duties from childhood. Crops were apportioned and varied as the different soils required; and the inmates of house and stable were sustained principally by the farm. Plenteous variety was enjoyed. Body and mind maintained a steady increasing growth. Fruitful seasons followed in regular succession. Happy families were reared among the hills and vales, vieing with each other in honest emulation; catching from one and another an idea of progress which was practically improved upon, until men and means were sent abroad who have built our large cities, and made those improvements of which we may well be proud.

From our cities a flood of literature has been sent out bearing the name of agriculture, which in reality is about the same as if the farmer should take the seeds of all his different grains and sow them broadcast, without any reference to varieties of seed or difference in soil. This has had the effect to encourage attempts to grow corn and other grains on soil fit only for roots and grass, and *vice versa*. Then the farmers of to-day must have a kit of patented tools of the latest make fresh from the city, whilst his stock of cattle must have the latest pedigree mark upon them; and if purchased from the stock of some speculative breeder and at a fancy price, so much the better, the buyer thinks. His horses must be counted on for speed, so that of necessity the cost is well up in the hundreds or thousands; and as though the evil one was determined to show them all the kingdoms of this deceptive world, ten or even

eight hours is to suffice for a day's work; the leisure time of the son or grandson is spent with some "Columbus" or other ungainly looking specimen of the horse tribe hitched to a skeleton vehicle in going the rounds of the village race course.

In view of this variegated picture, what shall we do? Like the busy bee let us seek honey from every flower. Let the farmer from practice build up a theory. Let him experiment for himself. Economize his time and means. Say unto the evil one, "get behind me." Use his "time which is money," in honest labor and useful recreation, associating with his neighbors for mutual improvement, and so fulfil the whole law of "loving your neighbor as yourself." As the city is made up of various characters and equally various occupations, so let our farms present in harvest time a variegated hue, from the maturing of numerous crops, instead of the more modern notion of a single crop, or at most two or three. Let rotation, so much talked of and so poorly practiced, become a principle in our farm management. And now turn back to the commencement of this article, and decide what portion of the farm shall be devoted to that noble crop, Indian corn.

If by the above I shall induce some to write out their views of farming, and thereby keep up a lively discussion, the effort will not be in vain. R. MANSFIELD.

Wellesley, Mass., March 29, 1870.

For the New England Farmer.

THE FRUIT GARDEN.

"Now Winter's reign is over,
Blithe Spring once more
Will joy restore."

Yes, the long looked for season, the time for enjoyment and for disappointment to the amateur gardener, has come.

Very few things afford more innocent and useful enjoyment than the study of the laws by which nature sustains and controls her productions, and gives to man whatever is both pleasant and profitable to look upon and to enjoy; and particularly is this the case when pleasure and profit is sought in the garden by conforming to the requirements of each plant cultivated in order to their perfection in beauty, productiveness and utility.

As a rest from the intensity of application to business by village mechanics, merchants and professional men who can afford suburban residences, what can be more interesting and profitable than a fruit garden? To consider the appearances and uses of fruits—the plants that bear them, the culture necessary to produce them in perfection,—and to partake of them as food for the body, cannot fail to improve the mind, calm painful or passionate feelings, or nervous irritability, and recruit bodily strength.

The pleasures of conviviality which are resorted to by so many of the above-named persons may have some good influence when moderately indulged in, but they are generally had at the expense of health and happiness, because they easily lead to extravagant expenditure and involve body and estate in ruin; and at best, they fail to improve the mind and increase good taste and love of natural beauty. They seldom, if ever, soothe the feverish and excited system, nor do they give that preparation for healthy repose and sleep which the over-taxed body and mind require, and which is sure to follow the innocent and pleasurable employment of the faculties in observation and gentle labor in planting, cultivating and harvesting the productions of nature in the garden.

Men differ in their taste and in their capacity to enjoy any one of the many things by which innocent pleasure may be secured, and all have a moral right to choose for themselves. What we want to impress on the mind of the reader is the idea that individual or family employment in the fruit garden is soon found to invigorate the nervous system, charm and soothe the mind, increase good taste and love of beauty, and to prepare the body for that repose which is necessary for those who are active and persistent in their business.

It may not be generally known, yet is none the less true, that to professional men, worn out by close application of their minds, we are indebted for discoveries and improvements in horticulture. They sought health in caring for the growth, perfection and fruiting of some plants or trees; they became interested, and being men of improved minds, they were observing; they sought a knowledge of the conditions or requirements necessary to the perfection of some plant or its fruit, and when found, they adapted their labor and care to the end desired. Improvements followed, and we have the benefit of enjoying what their labors have contributed to our advantage, and may profit by their example.

Information necessary to begin gardening and to continue it successfully is so plenty that "he who runs may read." What should we read? you ask. If you have time, read a book on fruit culture; before you buy one consult some reading, yet practical gardener. By so doing, you will be spared the disappointment that is sure to follow labor performed in ignorance of varieties of fruit, suitable soil, proper planting and cultivation, the influence of climate on the plants and fruit, and the times and manner of harvesting and securing in the best condition for future use the results of your healthful and gratifying employment.

If you plant for pecuniary profit, be very careful what you plant. Many fruits truthfully called the best in one State of the Union, may not be so in another, and a fruit of medium

quality, fully ripe, is much more pleasant to the taste and more profitable for sale than one of the highest quality, when not perfected. Thus, the Iona grape is very much superior to the Concord; but if the Concord can be ripened in our climate and the Iona cannot, the Concord is the best for our section. In an experience of years it will be found that Concord and Hartford Prolific are the only varieties that are uniformly reliable, or that will pay the poor man to grow.

If pears are planted on sandy or gravelly soil, they will cost more for manure than they are worth, and many kinds will fail to grow—that is, if the land is dry. On such land I have had some success with Flemish Beauty, Bartlett, Louise Bonne de Jersey and Beurre Giffard, but I cannot say my success would satisfy a market gardener.

We have currants of many varieties. I have many hundreds in my garden and nursery, but when hardiness and beauty of the bush, and quantity and quality of the fruit are considered, no red variety will be equal to the Victoria, and no white one to the Dutch White. These are symmetrical in form, will bear manuring, and the fruit is of good size and very sweet. Those varieties called Red Cherry and White Grape sell well, but their fruit is not so sweet, nor are the bushes comparable with the first mentioned,—the Cherry being not so vigorous and the Grape not uniform in growth.

Of gooseberries, I have never had any or seen any that an Englishman considers worth growing, in our State. The sun is too warm in summer, and some days too dry to allow a good gooseberry to escape blight and grow its fruit to perfection. The best I have is called Williams' Red.

Of strawberries I have succeeded with but two varieties, Jenny Lind and Triomphe de Gand. The first is early and sweet and of good color and size, and prolific; on good loamy soil, with good culture, pays well. The last is later, larger and of good flavor, and is prolific; it will require a good, rather damp soil and high culture. I consider all strawberries as uncertain as to crop in our climate, be the variety or culture ever so good, and whoever grows them largely must reckon on several years for profit, as if a crop is secured two years in five, to grow them pays better than common crops.

Raspberries are refreshing and healthful, and by some are considered profitable. I have taken in one season from 48 plants, 52 quarts of fruit. The variety was Red Antwerp. This variety needs protection in winter, but of all varieties it is, for home use, the most profitable, if crop, quality and beauty are considered. Of all the black varieties, I have found no one any better than our own thimbleberry. They are nothing else than the thimbleberry of other States. It is on such plants, highly cultivated and recommended by those who stand high in esteem as horticulturists, that nurserymen make, and purchasers loose money.

What I have said is intended for those who have had no experience in the fruit garden, and my object is to induce such to seek pleasure and profit in growing fruit, if only for their own use and health. If the editors think the above worth publishing, I hope it may do some good. J. FLEMING.

Sherborn, Mass., 1870.

BUTTER MAKING.

The following extracts are from an article in the St. Johnsbury, Vt., *Times*, written by David Goodall. After speaking of the importance of good cows, good feed, and careful workmanlike milking, he says:—

The next requisite is a cool, sweet, clean cellar for summer, and a clean, sweet milk-room for the rest of the season. Here the milk should be kept at about sixty degrees, and when colder than fifty, the milk should be scalded, as it will keep the butter yellow and save labor in churning. Both cellar and milk room must be light and well ventilated, and all the utensils kept sweet and clean. Strain and set the milk immediately after drawn from the cows. At sixty, it will be usually ready to skim in twenty-four hours. Milk not scalded and set in a cold, dark place may be a week in rising the cream, but it had better be given to the pigs without skimming, as butter made from it is hardly fit for human beings.

No invariable rule can be given as to the time of skimming, yet it is very important that the cream be taken off in all cases before the milk becomes thick, because the microscope shows us that at the very time the milk begins to coagulate, decomposition and decay commences in the cream, and that an apparently great and thick growth of mould and fungus rapidly springs up and covers the cream and spoils it. The butter made from it may be barely eatable when new, but it soon acquires a dirty, smoky, bitter taste, and is unfit for table use.

After the cream is put into the pot or can, it should be thoroughly stirred every twelve hours and be sprinkled over the top with fine salt. Bring the cream to about sixty degrees when ready to churn.

When the butter has come and is gathered, draw off the buttermilk, then put into the churn ice-water or cold water and wash and work the butter thoroughly, changing the water until entirely free from the buttermilk; then draw off the water and work it out of the butter, and take it out of the churn. If too much water remains in the butter, so that it is crumbly and spongy, work it over by hand and spat it out. The butter being weighed, add three-fourths to one ounce, as you please,

to each pound of butter of good fine salt. Some add to the salt the same quantity of granulated white sugar, and thoroughly mix with the butter. In spatting and working and salting the butter, great care and judgment must be used, as there is danger of heating the butter and injuring the grain and rendering it greasy; on the other hand if not sufficiently worked the butter will be crumbly. The sugar is no aid in preserving the butter, but is used to improve the flavor, some preferring and some disapproving.

While the butter is warm, and as soon as salted, put it into the tub and pound it down solid, and if it does not fill the tub, cover it with a cloth and put on it a pint of brine. Fill the tub within one inch of the top, cut a cloth one inch larger than the butter and spread it on the top of it; then cut another cloth one inch larger than the last and fit it on the top, spreading evenly and turning up each edge on the inside of the staves, but it must not hang over as it would draw brine out. Cut a bar of sweet wood, two inches by half an inch, and fit it on the butter; bore through the stave into each end of the bar and put in a wooden pin tight to keep the bar in place, fill the tub with fine salt, and fill again with brine and keep it full. Some put in one-fourth inch of fine salt at the bottom of the tub and cover with a cloth. I think the cloth without the salt sufficient.

Butter made and packed in this way will keep sweet and perfect wherever salt pork can be kept, and as long. When the butter is sold a small saving could be made in removing the salt and part of the brine; but I would advise, instead, to put the makers' name and residence on each tub and let it go, salt and all, and make the buyer promise to keep it all on, and the tub full of brine; because if exposed to warm air this butter will depreciate rapidly, yet it would not change if kept frozen.

Such butter as this would be cheap at forty cents per pound, while our good dairies would be comparatively dear at thirty-five cents; and such butter is always wanted and sells quickly, while ordinary butter cannot be sold. The difference in market between really good and common butter is two hundred dollars per ton, and the difference in the cost of making and keeping would not exceed five dollars per ton.

Ice is not, perhaps, an indispensable requisite in making butter, but it is a great convenience and aid, and but little expense required to get up an ice house. If ponds and rivers are distant, take an old barrel or box when the weather is cold, and dash on water and snow and it is soon water tight; then fill with water and freeze up. Or a box of boards and stakes like a mortar bed may be cheaply made in the ice house or out of it, and water or new ice thrown in, which could be carried up to any thickness desired.

EXTRACTS AND REPLIES.

SUPERPHOSPHATE OF LIME AS A TOP-DRESSING.

I wish to inquire through the FARMER, whether you or any of your readers have made use of superphosphate of lime as a top-dressing on mowing lands? If so, what month in the year should it be applied? How large a quantity to the acre? Will it pay when hay sells for twenty dollars a ton? Does it work equally well on wet and dry soil? Should it be applied clear, or is it best to mix it with loam or plaster? A SUBSCRIBER.

Hudson, N. H., April, 1870.

REMARKS.—We have no doubt that *pure* superphosphate of lime would be a good top-dressing for grass land, but we have decided doubts as to its being the most *economical* material you can use.

If there is a muck bed on your farm, or in your neighborhood, and you can get it conveniently, haul it out, dry it, pulverize and mingle with it pure bone dust, manure, ashes, plaster, if the land is clayey a little lime, and you will have a top-dressing which will be exceedingly valuable.

It may be a duty which we owe the farmer, to give some decided opinions with regard to the use of what are called superphosphates of lime. Personally, we have gained very little from their use; not a fourth part enough to pay their cost. On the contrary, some excellent farmers state that they derive great benefit from them. We do not feel free to recommend them, mainly on account of their *impurity*,—but urge upon the farmer a more constant resort to the materials which the Author of Nature has placed more immediately within his reach.

When used as a top dressing, superphosphate of lime is usually sown broadcast, from 300 to 600 pounds per acre, without mixing with loam, or if with loam, so much the better. The land should be moist of course.

COMMERCIAL MANURES—TOP-DRESSING.

I am a subscriber to a paper that I consider very valuable to a man that is trying to be a farmer. When I receive it I first search for the Extracts and Replies, and always wish there were more of them, and have been on the point of asking that a larger space be devoted to them, but have feared you would ask me to contribute as well as read, and so have held my peace. But as I shall be short for grass the coming summer, and I have some good warm land that cuts but a light crop, I wish to ask if it will pay to buy foreign manures of any kind to spread on to it. If so, which is the best? A. FRANKLIN.

Shelburne Falls, Mass., March 21, 1870.

REMARKS.—We are sorry to say that we do not know of any "foreign manures" that we can conscientiously recommend you to buy for this purpose; but we can with full confidence commend to you the practice of such farmers as C. F. Lincoln, of Woodstock, detailed in last week's FARMER, of "B.," Oak Hill, N. Y., in the number for February 12, and by other practical farmers who favor the public with their experience in farming that pays. We have been well paid by top-dressing

such land as you describe with yellow loam, from a newly dug cellar, &c. Have you a bank of loam or muck near by with which you can make an experiment in a small way? Try some clear, and some composted in the cattle yard or with a few ashes, or any other material in which you have faith, and watch its effects. Mr. Davis, of Framingham, Mass., a successful farmer,—see Monthly FARMER for 1867, page 226,—expressed great faith in the *shovel* in improving poor meadows. He says that he averages about 20 ox-cart loads of compost to each cow and hog that he keeps! But he had a bank of good loam.

REMEDY FOR CERTAIN DISEASES.

I notice in your last issue, communications in regard to a disease in cattle in some portions of Massachusetts, Connecticut and Rhode Island, particularly in Mr. Fay's herd. I send you a remedy which I think an excellent and almost sure one, for all diseases of cattle and horses where the symptoms are such as are there described. Get the body of the common tag alder, as large a growth as can be conveniently obtained. Bore a hole lengthwise with an inch or inch and a quarter auger, according to size of stick, sawing it off so as to leave one end solid. Put in common salt and tamp it down hard, leaving room at the top to plug tight with same timber. Place this in a moderate fire until the wood is all consumed. The salt will be left in a hard roll, which may be fed to the stock from one to three times a day, a large spoonful at a time. This will be found beneficial to all stock at times, especially to horses when the hair becomes dry and hard to the touch.

J. L. BAXTER.

East Bethel, Vt., March 24, 1870.

REMARKS.—This is entirely a new remedy to us. It would seem to be innocent, and, therefore, worthy of trial. We are not certain what the "Tag Alder" is.

VALUE OF SAW DUST.

FRIEND BROWN:—I don't like to trouble thee again, but what I want to know is, whether there is a sufficient value in pine sawdust to pay for the labor necessary to prevent its heating the manure to hurt? The wisdom of using or not using, depends very much on its manurial value; its heating so quickly appears to me to indicate considerable value.

Please, somebody, give poor farmers the light, and make us thankful once more.

Abington, Mass., 3d mo, 1870. JAMES WEST.

REMARKS.—Pure sawdust, from any wood, does not heat readily, but will remain for many years, in heaps, in the open air, without much change taking place in it. When it has been used as bedding for stock, and received their droppings, it will ferment; but unless highly charged with such droppings, we have supposed it would not rapidly pass into a state of fermentation. The sawdust is not the chief agent in producing fermentation, but the manure itself.

Mere woody fibre, in all cases, seems to require fermentation or charring to render it nutritious to plants. Sawdust requires as much dung as dust to bring it into a state of fermentation.

Where sawdust can be cheaply procured in large quantities, we think it would be profitable to collect it, dry it by spreading in thin layers on the ground. When dry, form it into conical heaps of any convenient size, cover with sods, loam or clay, and leave holes at the bottom on the windward side for lighting the fire, and some still smaller ones at the top, to allow the smoke to escape.

Kindle the fire at the bottom holes, and allow combustion slowly to proceed until the volatile matter is driven off, when the air-holes should be stopped with earth in order to arrest the further burning of the piles. The operation will be much like that of charring wood for charcoal.

This charred dust will be very valuable as a bedding for stock and for mingling with any manures, as it becomes a powerful absorbent. In some localities, sawdust is accumulated to the amount of hundreds, if not thousands of cords, and may be had for the cost of carting away.

RAISING CALVES.

In your last issue, March 26, I saw an article on raising calves that interested me. As I raise a few each year, I will state how I feed them. For the first week I give them about six quarts of milk per day right from the cow. Then I take about one teacupful each of corn meal and cotton seed meal in a pail, after mixing it with the hand I add two quarts of *boiling* water and about the same quantity of milk, (skimmed, if I have it;) let it cool to a blood warm and feed them twice a day for six or eight weeks, then turn them out, if grass is forward enough; if not, give them good hay with the same quantity of meal mixed up thin with water.

FEEDING COTTON SEED MEAL TO COWS.

In this connection I wish to say a few words in favor of cotton seed meal as a feed for milch cows. I have used it for three years, and must say that for producing milk, butter or flesh, it is the *best* and cheapest feed I can get. I have never known a case of swelled udder or garget from its use.

My method of feeding is to put two quarts of the meal into tubs I use for feeding, and add a pail of water to each tub, stir it up well and let it soak for half an hour; then add the same amount of corn meal, mix it thoroughly and feed. This quantity I give to my cows twice each day, after milking, and have given it (during the winter or rather when the pastures get short,) for three years, with the most gratifying results.

I have known milkmen to give six quarts of cotton seed per day with four quarts of corn meal to some of their cows, for three months at a time. And one man has fed one particular cow with from four to six quarts of cotton seed per day for *five years*, and the cow is *all right*, and giving this winter twenty-four quarts of good milk per day. I have tried corn fodder cut and fed green, and have wilted it and fed it, but could never see any increase in the flow of milk. Still I believe when the pastures get short in August it is a very good thing to feed,—that is, it helps fill them up.

Cumberland, R. I., March 28, 1870. SENEX.

A MARE THAT SUFFERS.

Your columns of "Extracts and Replies" contain so much good advice in answer to so many puzzling questions, that I am induced to make another in the list of inquirers.

I have a fine English mare that appears frequently to suffer pain in discharging from the bowels. She lifts a fore foot, trembles and

crouches slightly, with sometimes a sort of groan. The excrement is not hard, as in constipation, but rather the reverse. She appears otherwise well, is in good order, not too fat; has six quarts ground oats daily (the same wet, as she refuses dry meal), and sliced potatoes once a week; is fed and watered regularly. Used for light driving only. The above symptoms are more noticeable after a harder drive than usual, but have appeared more or less for some months. What is the matter, and what is the remedy? S. E. J.

Vermont, March 29, 1870.

REMARKS.—Perhaps some person has had a horse suffering in a similar manner, and will be able to state the cause and remedy.

EARLY ROSE POTATOES.

I bought one peck of Early Rose Potatoes in the fall of 1868. From them I raised last year a little over 38 bushels of nice potatoes when dug. But, alas, the tables turned on me instanter, for in less than three weeks 30 bushels of them were rotten, and I had to dump them into the barnyard.

RELIEVING CHOKED CATTLE.

We have a very simple instrument here in my neighborhood for relieving choked cattle. It is simply a tarred rope one and a half inches in diameter, and five or six feet long. The end that is intended to go down the throat is trimmed off and wound with a piece of cotton cloth and smeared with soft grease before using. With this I have relieved five within two years. Tie the creature up, let one man hold the left horn with his right hand, and take the creature's tongue out with his left, while another man runs the rope down. It is limber enough to follow the passage, yet stiff enough to remove all obstructions. There should be one or more in every neighborhood.

CABBAGES.

I raised and sold cabbages to the amount of $75.58 from eleven square rods of ground, besides having enough for my family, and giving away some five hundred pounds. They were the Stone Mason variety. I never have written anything for a paper before, and probably shall not undertake to again. So please excuse me this time.

LEWIS BEAL.

North Fairfield, Me., March, 1870.

A LAME HORSE.

Will you inform me what I can do for a lame horse, that has a sore on the bottom of his foot, caused by pricking when shoeing, or it may be a corn. R. I. SUBSCRIBER.

Woonsocket, R. I., April, 1870.

REMARKS.—Corns are often the result of bad shoeing, and unless the animal can be turned out to run barefoot they must be cured by judicious shoeing, by which pressure on the corn shall be avoided, in connection with proper medical treatment. The corn in the horse's foot is different from the hard corn of the human subject; it presents a reddish appearance, is very sensitive, and more spongy and softer than other parts, but originates in a similar cause. We must advise you to consult a horse doctor or an experienced horse-shoer.

CROPS IN JERSEY COUNTY, ILL.

In remitting the enclosed payment for the FARMER, I will say that in this section there was not over one-half the usual amount of wheat sown last fall, and this spring what was sown does not promise over half a crop. Farmers are now busy putting in oats, of which more will be sown than usual. A large amount of corn will also be planted which I think is our best paying and surest crop. There is some little excitement here about the Norway oats, but I am inclined to the opinion that its superiority, if any, is owing to change of seed and care in cultivation. A change of seed is beneficial to all our small grains, particularly wheat. J. B. REYNOLDS.

Delhi, Jersey Co., Ill., March 26, 1870.

REMARKS.—As the exchange of ideas between the farmers of the East and the West, as well as the change of seeds, is desirable, we hope you will occasionally communicate with your Eastern friends through our columns. Farmers, East and West, ought to be more sociable.

HORSE DISTEMPER.

I have an eight-year-old mare that runs at the nose, and has all winter. It looks like the horse distemper. What shall I do for her?

A. FRANKLIN.

Shelburne Falls, Mass., March 21, 1870.

REMARKS.—Probably it is nothing more than catarrh or cold, caused by a chill in the stable or out. Has your horse had a warm, dry, clean and light stable, and good bedding all winter? The trouble, whatever it is, ought to be attended to. In ordinary cases, Dr. McClure recommends a bran-mash with from six drachms to one ounce of powdered nitre in it, at night, for two or three days, withholding grain, and if the bowels are confined a mild dose of physic.

HOW SHALL I BUILD MY BARN?

As I am intending to build a barn the coming season, I would like the advice of some of your subscribers. The barn that I tore down was a common long barn, with doors at both ends, bay on one side, and stanchions on the other. The land where I am about to build falls at the north enough to have a cellar. I want the yard on the south side, and the barn large enough to accommodate twelve head of cattle, three horses, twenty-five sheep and fifty tons of hay. I don't want a steam engine in the barn. A SUBSCRIBER.

Concord, N. H., April 4, 1870.

APPRENTICESHIP WITH FARMERS.

Young men who would be farmers, but who have not been brought up to the business, have been advised often to let themselves for a few seasons to some farmers who wants help, and to look upon such service as an apprenticeship, before going into business for themselves.

I would offer an amendment to that advice, to the effect that no one who would become a successful farmer should work with or apprentice himself to one who cannot make farming pay, but when they hire are obliged to do some job in the winter off the farm, to pay their hired help.

Any young man of intelligence can judge for himself as to the income and expenses of a farmer after he has been employed by him twelve months. It would be poor encouragement for him to give his best energies to a business that would not pay the interest of the capital invested. Were he to do so, his time would be worse than lost,—unprofitable to his employer, and entirely unsatisfactory to himself. Should he stick to the farm under such a tutor, he would learn nothing he

should, but much that he should not. Many farmers think their hired help have no business to inquire why or how they do their work. If they desire intelligent, reliable laborers, they must pay more money, or make the farm a school where the knowledge acquired shall be an equivalent for part of the services performed. I would send a boy to any respectable work, rather than to a farmer who says "farming does not pay." F.

Mast Yard, N. H., 1870.

HORN AIL.

I have read your valuable paper for some time, and as I have been much benefited by the suggestions of others, I will give a little of my own experience in a few things, hoping that, though the first time I ever wrote any thing with the idea of having it read by the public, I may thereby in some measure do to others as they have done to me.

And first, for horn ail. Take a good handful of of tanzy stalks, dry thoroughly, strip the leaves and blows off, pulverize fine, one tablespoonful of cayenne pepper, one pint of rye meal. Mix the three ingredients together, and wet with vinegar. Then make the same into nine pills. Give one a day for three days, then omit three days; and thus alternate until all are used, if necessary. I have known this to save a cow that was so weak that she could not get up.

FILM ON A CREATURE'S EYE.

Melt a tablespoonful of lard and turn it in the opposite ear. I have repeatedly effected a cure in this way.

CHOKED CATTLE.

A potato or turnip in a creature's throat can, in most cases, be removed by turning the animal on to a rough piece of land or where there is a ditch, and make it run or jump. If this fails, take a stick about three-eighths of an inch in diameter and four feet long, with a bunch about the size of of a hen's egg on one end, over which put a piece of pork rind, and fasten firmly, with which the potato may be carefully pushed down.

YELLOW WATER IN HORSES.

Take one ounce of Antimony; one tablespoonful of Aloes, and same of Sulphur and Peruvian Bark; put them into a bottle with a gill of rum, and after shaking well add one and a half pint of water, shake well again and turn down. My mode of giving such a dose is to put on a bridle, throw the lines over a joist, so as to bring the horse's head pretty well up, then insert the neck of the bottle into one side of the mouth, (never pull out the tongue) and turn it in as fast as the horse can swallow.

HOW VERMONT BOYS MAKE SUGAR.

First, they want good clean sweet buckets. Then tap with a five-eighths pod-bit, from three-fourths to two inches deep, according to size of the tree. There are various kinds of spouts, but the one I prefer is in shape like the nose of a tunnel with one side shorter than the other, drive it into the bark of the tree so as to cover the hole, then drive a nail under it to hang the bucket on. The sap is gathered mostly by a team. Pans from six to eight inches deep are used to boil the sap and to sugar off in. After boiling all day, it is syruped down, then strained through a flannel strainer. The syrup after standing in tubs over night to settle, is ready to be made into sugar. The pan which is used for sugaring off in, is thoroughly cleansed. The syrup is carefully turned into the pan as long as it will run clear. Some use about one quart of milk for two hundred pounds of sugar to raise a scum to cleanse the sugar, others use the white of eggs, and some use cold sap. A man that understands the business can sugar off two hundred pounds in from two to three hours.

Groton, Mass., April, 1870. G. T. Williams.

SUGAR FOR FILM ON EYE.

I notice in your issue of the 26th, an inquiry for a remedy for a film on the eye. I have used successfully common granulated sugar, and have known it to remove the film in many cases where alum and other remedies have failed.

A Subscriber.

East Dover, Me., March 28, 1870.

TO REMOVE FILM FROM THE EYE.

Please publish the following for the benefit of "A Subscriber" and the rest of mankind: To remove a film from a creature's eye, put a lump of *fresh* butter, about the size of a walnut, into the *ear* on the *opposite* side from the eye with the film. L. N. Willoby.

Winchendon, Mass., April, 1870.

Remarks.—Mr. Willoby must be responsible for this prescription; we know nothing of it.

In relation to putting medicine into the ear of animals, an organ furnished with such sensitive nerves that a slight vibration of the air is transmitted by them to the brain; or into the nose which is so delicately lined that the least odor affects the sensibilities of that organ, a correspondent in Vermont informs us that a "cattle doctor" ordered some spirits of turpentine to be poured into the ears and rubbed in back of the horns of a heifer supposed to have the horn ail, which threw her into such terrible convulsions that her owner, a neighbor of his, ordered her to be killed to put her out of misery. Another man was advised to put a little of the same medicine into the nose of a sheep to cure grubs in the head. He tried it on one, but as the patient dropped stone dead from his hands, he gave up the "practice." A little butter in the ear might not be as fatal; but if we had a film on our eye we should require good authority for a dose of butter in the ear.

THE USE OF MUCK.

I see that Mr. Loring Barrus says that the farmers had better have muck on the brain than so much fog. I think he had better have muck on the brain than on the ground. I see that this man lives in Goshen. If he has lived there five years, and used muck as a fertilizer, I imagine that his farm must be in rather a poor condition, and if he supports a large family on its productions, I think his farm must be a remarkable one. He draws his muck to the barn and throws his manure on to it, and in that way has all the juices of the manure in the muck, and that is what gives it its value. But let him try the muck alone, just as it comes from the swamp, and see how he will come out. If he will go to his swamp and get a load of muck and not mix it with anything, and spread it on or plough it in to his land, I think he will sing a different song. I tell you, sir, in my opinion there is no goodness in it. It is of a cold, sour nature. If you have to mix manure with muck to make it good for anything, what is gained? Why not use the stable manure by itself? And then when you seed down your land you will be able to cut two or three tons of hay to the acre, while if you use composted muck you will not

get more than five hundred pounds of hay to the acre. Now let me tell you, if a man is poor he will continue so as long as he uses muck on his farm. A man would be better off to work for fifty cents a day and board himself, than to farm it on meadow muck. O. J. UPHAM.

Needham, Mass., April, 1870.

DEATH OF COARSE-WOOL LAMB.

Fine wool sheep have been kept on our farm for many years, but about a year ago a part of the flock was changed to coarse wools. After an absence from home, I have just returned to find the lambs from our coarse wooled sheep dying about as fast as they come. Out of twenty-two only seven are left. At first they appear smart and well, but after a few days, or in some cases a few weeks, they are taken with a diarrhœa that oak bark will not check, and die in great distress.

I at once went to work to find the cause. I opened one, and found his lungs somewhat affected, but not enough to cause death. On examining his stomach, I found in the passage out of the honey-comb stomach a wad of wool about as large as a bullet, entirely stopping the passage. I opened another and found all of the organs healthy; but just beyond the last stomach a wad of wool stopping the passage there. In another I found the passage stopped just beyond the stomachs with something resembling cheese, but as it was beginning to be dark I did not examine closely. Next morning found in one several weeks old, a large wad of wool about an inch beyond the last stomach, and the intestine inflamed and distended by the wool.

So I am satisfied that eating wool was the cause of the death of the lambs. Is this a trick of long wooled sheep? Old fine wooled sheep raisers here never heard of the like. Our fine wool sheep have not as yet produced any lambs.

We set the man who has the care of the sheep to tag all the ewes nicely, so that all scattering locks of wool would be out of the way of the lambs. A little knowledge might have saved all these lambs. I should like to hear the opinion of those better acquainted with coarse wool sheep.

Hartland, Vt., April 10, 1870. B. LIVERMORE.

POTATO DINNER.

About a dozen farmers from Sudbury and Framingham were invited to a dinner at Col. Hemenway's, in Framingham, on the 5th of April, to talk over the potato crop, and test the qualities of several varieties. After eating as much potato as they could with the bountiful supply of other provisions, the question naturally arose, What kinds is it best to plant this season?

Two or three varieties were spoken of favorably by all; among which the Early Rose was considered the best as an eating potato, up to that date and considerably later. The Burns and Worcester Seedling were thought very fine as later varieties. Bresee's Prolific was also spoken of as very good. About one-fourth of those present thought the Harrison ought not to be given up, as the yield is large and it is liked as an eating potato by many.

Two plates of potatoes, one called Late Rose, the other Royal Pitt, were thought to be the same kind. Both are very productive, and are liked as a table potato by some.

King of the Earlies, Early Prince, Willard and Climax were also among the kinds represented, but they are scarce, and the company decided not to recommend them for planting the present year.

One gentleman recommended sprouting potatoes to get them very early, by spreading horse manure two or three inches deep upon any convenient spot of ground, covering it with a little loam, then dropping the potatoes just far enough apart so that they can be easily separated after they have sprouted; covering the potatoes with sand, keeping them moist by sprinkling with water from a watering pot, and covering them with a sail cloth cool nights. When ready for transplanting take them up into boxes with a fork and separating them, plant in rows, pressing the dirt around them. ONE OF THE COMPANY.

STRETCHES IN SHEEP.

I wish to inquire what to do for my sheep that has the stretches. She lays down and stretches, and gets up and does the same. She has a lamb three weeks old. She was troubled the same before she dropped the lamb, as now. She appears well one day and is sick the next.

L. H. GAYLORD.

North Prescott, Mass., April 4, 1870.

REMARKS.—This disease is generally ascribed to constipation of the bowels, resulting from long confinement to dry feed. Sheep do not have it when at pasture. It can generally be *prevented* by some kind of green feed given once or twice a week—browse is better than nothing. Salt kept in a trough constantly in reach of the sheep, in which sulphur is mixed at the rate of a pound to half a bushel of salt has been recommended by Mr. B. F. Chamberlin of Washington, Vt., as a preventive.

As a *cure*, some kind of physic, if given in season, affords relief. If neglected until inflammation sets in, all remedies may fail. A piece of lard of the size of a butternut, mixed with mustard seed; a dose of Epsom salts; a decoction of thoroughwort, or boneset; castor oil, &c., are each recommended; and in the FARMER for 1868, (Monthly, page 240) Mr. G. H. Brown of Mason, Maine, stated he had been successful in a great many cases in giving the sick sheep a bit of plug tobacco as large as the thumb to the first joint, by putting it into the mouth and holding up the nose of the animal until it "chewed" and swallowed the weed. Whatever is used, the object is to move the bowels. Relief is sometimes effected by merely chasing the stretching sheep about the yard, on the first appearance of the trouble.

HOGS OR SHEEP TO IMPROVE A FARM.

I wish to inquire through your valuable paper which are best, sheep or hogs to improve a small farm which is badly run down, and which will be most profitable in addition to their assistance in improving the farm? A.

Avon, Conn., April, 1870.

REMARKS.—There are many circumstances having a bearing upon either of these propositions, such as locality, price of labor and grain, skill in tending, &c., which must be considered in deciding which to choose. These circumstances are not known to us. Briefly, our opinion is, that keeping hogs will enable you to enrich your cultivated lands much quicker than by the use of sheep. To secure this, the hogs must be kept growing rapidly, and plenty of materials supplied to them to travel over, lie upon, and enrich by their droppings.

DRY MUCK FOR BEDDING.

In the FARMER for February 12, I saw an article headed, "Value and Use of Muck," and I should like very much to inquire of the writer of that article how he dries his muck so that it will not freeze in the winter? B. B. SMITH.

East Dover, Me., 1870.

REMARKS.—Muck thrown out of the bed in the winter, or even in July or August, when the water is usually low in swamps, will become sufficiently dry to be carted into some place for winter use before the fall rains. Throw it into heaps on dry land, and on the morning of some hot day spread it a little, and get it in before rain falls on it. In this condition it will not freeze so as to prevent using it, if put in a cellar, or anywhere in the barn. Many farmers in this section pile it up in a large heap near the barn, out doors, and cover with boards, and though the surface becomes frozen, it may be broken readily, and the unfrozen part used as litter or otherwise, as desired. Our practice is to place it in the cellar, and mix it with the droppings, once or twice a week.

The foregoing remarks are not intended as a substitute for a reply by "B." of Oak Hill, N. Y., the writer of the article alluded to, who confesses to "muck on the brain" and to great faith in muck on the land, and who is able from his long practical use of the material to answer the question of Mr. Smith.

PRICES AND COST OF BEEF.

Your Montpelier correspondent is doleful over the high price of beef, and sighs for the good time to come, when "extortion" shall cease, and steaks and sirloins shall be sold at starvation prices to the farmer. Your remarks were to the point, and a substantial answer to his inquiry.

But there are many like C. L. S., who think that not only beef, but all farm crops are too high. That farmers, whom they regard as "mud sills," are getting very rich by "extortion," and should almost give away their produce to their grateful customers and deliver it, to boot. And if they "groan for awhile" they will soon be used to it as "eels are to being flayed."

It is now pretty well understood by farmers that twenty pounds of milk can be made from the feed that will produce one pound of beef. This at five cents per quart would bring fifty cents. Or that two pounds of cheese can be made from that quantity of milk, which will retail at twenty or twenty-five cents per pound. The dairyman can keep two hogs to every three cows, and by using a little grain with the sour milk and whey, turn them fat in the fall, at a clear profit, giving quick sales and ready money.

It is a long way from the calf to the ox that will dress 1000 pounds net, and it is a costly operation to grow him. But few farmers, even, are aware of the cost, who have not kept an exact account of what he consumes. It will cost no more to raise a colt to four years old, than a steer to the same age. The colt, if well bred, will sell for $200, with a chance for higher figures. The steer must be a good one to bring $100.

There is more profit in raising mutton than beef, at the present price of wool. Mutton is wholesome, nutritious and toothsome flesh, with nothing of the taint of "extortion" in it at the *present* time. If beef eaters who complain of present prices, do not, as you suggest, see fit to raise their own beef, they might with becoming dignity "settle back on mutton" until the over-reaching farmers cease to "groan," and offer their bullocks at lower figures. J. R. W.

Springfield, Vt., April 9, 1870.

BEST PEARS.—FRUIT BOOKS.

Can you inform me where I can procure a copy of a book entitled The Fruit Garden? Also, the best *eight* varieties of pear trees, suitably divided between summer, autumn and winter, best suited for Southeastern Massachusetts, and where I can procure them? R. T. L.

Taunton, April, 1870.

REMARKS.—There is a great variety of opinion as to what pears are the best. The same pear does not grow the same on different soils. Some will crack on one soil and grow fair on another. We can recommend the following with some confidence:—

1 The Rostiezer ripens from middle of August to September.

2. The Bartlett, Bloodgood, Buffam, and Seckel, for summer and early autumn.

3. The Duchesse de Angouleme, Beurre 'd Anjou for autumn.

4. The Lawrence, Winter Nelis and Easter Beurre for winter.

"The Fruit Garden," by P. Barry, can be obtained through any bookseller. Downing's Fruit and Fruit Trees of America, The American Fruit Culturist, by Mr. Thomas, and other works may be found at most of the bookstores.

PERUVIAN GUANO.

Will you give us through the FARMER the effects of the use of Peruvian Guano in the culture of early cabbage and beets for market; and what you think of using 1000 pounds per acre, whether it would be too much for land that would produce 40 bushels corn per acre; also what would be its effect on the future grass crop?

Sterling, Conn., 1870. S. G.

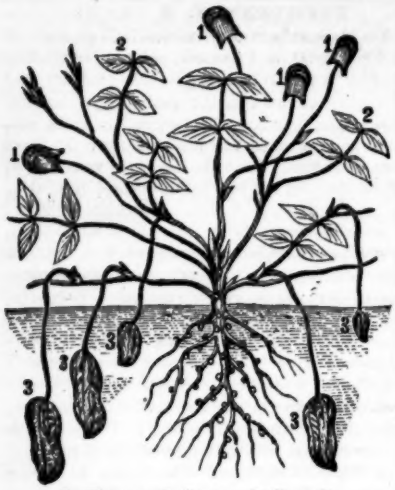
REMARKS.—We have always supposed that the effect of guano was more of a temporary than of a permanent nature. A thousand pounds of Peruvian guano applied to one acre of fair soil would probably give a size to the cabbage and beets which would render them unfit for market—especially the beets. Apply one half as much guano to the present crop, and the money's worth of the other half in good stable manure for the acre, and your husbandry will probably prove more permanent and profitable.

IS THERE DANGER OF MOWING TOO CLOSELY.

I wish to inquire through the FARMER if a mowing machine is a damage to a mowing field? Is there any danger of mowing it close enough to damage the roots of the grass? G. N.

Craftsbury, Vt., Feb., 1870.

REMARKS.—At the late Farmer's Convention, in Lewiston, Me., the subject of injuring the grass crop by cutting it too near the ground, was discussed, and the opinion of most of the speakers was, that if the spears of grass were cut off *below the first joint*, it would greatly injure it.



1. *Flowers.* 2. *Leaves.* 3. *Peanuts.*

PEANUTS—THEIR CULTIVATION AND USE.

Being a reader of your valuable paper, I take the liberty to ask you where I can get the seed of the peanut, and how much is required for the acre, and for such other information as you may be able to give in relation to the cultivation of this plant. P. H. CASEY.

Lenox, Mass., March 31, 1870.

Information in regard to raising peanuts, would be gratefully received through the FARMER.

J. R. GURNEY.

South Hanover, Mass., April 6, 1870.

REMARKS.—As we have never raised the peanut, we must rely on the books and papers for our answers to the above inquiries.

The first fact to be stated is that the plant grows naturally only in considerably warmer climates than that of New England. So do tobacco, tomatoes, and sweet potatoes,—all of which are more or less cultivated here. We presume it is possible to raise peanuts here; but whether it can be done profitably we are unable to say. Our city dealers buy the nuts uncooked, and employ bakers to roast them. Of them we suppose there would be no trouble in procuring the seed, which in our climate must be started in hot beds or otherwise, as tobacco, sweet potatoes and tomatoes are. We understand that specimens of the plant have been found growing near Walden Pond in Concord, Mass., a location much frequented by picnic and other parties, by whom the seed was dropped on the ground.

We copy, by permission, from the *Country Gentleman*, a cut of the plant which illustrates its peculiarities of growth. From an article in the same paper, and from one in the last Report of the Agricultural Department, we condense the following description of the plant and of its cultivation.

The peanut—*Arachis hypogæa*—is a leguminous annual plant. It has a hairy stem; the leaves are alternate and paired, of a deep green; the flowers of a deep yellow, axillary and solitary. As soon as these flowers have shed their corollas, or have faded, the pedicles, or stalks, on which they are borne, lengthen and turn downwards to the earth, as seen in the cut, and bury themselves in it until a firm bed is reached, giving the plant the singular appearance of being fastened to the ground by as many strings as there are seed pods ripening under ground.

Any soil that can be put and kept in a friable condition, with a sufficient quantity of lime and moderate fertility, will produce the peanut, *if the season is long enough to mature them.* It will not fruit except on a calcareous soil; but without lime vines grow, but little fruit is produced. As the color of the pods partake of the color of the soil, and as the brightest pods always bring the most money, gray land is preferred, and red or chocolate-colored avoided. The following directions are applicable to the south, where it is not necessary to start the plants in a hot bed, as it is here. The land should be well ploughed and pulverized in winter. It should be harrowed early in spring, checked off both ways (just previous to planting,) the rows two and a-half feet apart. It is very important that the rows should be at regular distances, otherwise the after culture will be very imperfect. Plant at least two kernels to the hill, at the intersection of the rows. Make a hole with a pointed stick, drop the kernels and cover about two to three inches. The planting should be done as soon as the frosts for the season are over.

Clean culture is absolutely necessary. The "sweep" or cultivator should be run about every eight days, and kept up until about the middle of July. After the tendons—or stems on which the nuts forms—begin to shoot down, if the grass has not been removed before, it must be removed with the hand and hoe.

In October and November, or just before a frost, they are harvested. Furrows are run on each side of the plants, which are then lifted with a fork or pronged hoe, and after wilting two or three days are carefully stacked around stakes, with the nuts innermost, much as beans are with us, capped with straw or other material, as it is very important to keep the hulls from becoming discolored. When dry the nuts are picked off from the vines by hand; about five bushels being a day's work, from 16½ to 18 cents per bushel being a common price for this work. There are two kinds of vines the "running" and the "hill."

It is estimated that each successive peanut crop in Virginia since the war has been three-fold greater than that of the year preceding, owing to the demand consequent on the knowledge of the fruit acquired by Northern soldiers in their Southern campaigns. And very likely the above inquiries owe their origin to the same cause. It is a very profitable crop at the South. The average crop is estimated at 50 bushels per acre, and the

price at $2.50. The vines, if harvested before frost, are valuable as cattle fodder.

The peanut is successfully raised in the tide water district of Maryland, also in Delaware and the southern part of New Jersey and Illinois, but how far north its culture may be extended to advantage is a question that must be determined by trial.

LENTILS.

Are there any lentils in America? I have sent for two seed catalogues, and to Washington twice, without learning anything. Who, this side of the Atlantic Ocean, has any? NEWTON WRIGHT.
Lyndonville, Vt., March 17, 1870.

REMARKS.—Do not know. Those who do will be kind enough to enlighten our interested inquirer. Darlington, in his "Weeds and Useful Plants," thinks the lentil is cultivated in the old world chiefly as food for stock—both herbage and seeds serving that purpose. The plant is sometimes seen in gardens here. When lentils are properly cooked, they are a tolerable substitute for beans, are much prized as food by the Mexicans, and form the basis of the "Linsen soup" of the Germans.

GROUND FLOOR FOR A HORSE.

I have a horse that is sometimes troubled with tender feet. I lately removed him from his plank floor stall to one where he stands on the ground. Is not the ground the best floor for the health of the feet and legs of horses? JOHN.
Franklin, Mass., April, 1870.

REMARKS.—Undoubtedly it is. It is more labor to keep horses clean that stand on the ground, but their feet will keep in better condition if the ground is kept in order, which you will probably find it some trouble to do.

BLIND STAGGERS OR BLACK TOOTH.

In answer to P. Wilson of Becket, Mass., I would say that in the fall of 1868 I had four shotes which became entirely blind, and could not walk without frequently falling down. They continued to grow worse for several days, and got so bad that they could not stand. Up to this time nothing had been done for them. I then took a common pair of pinchers and pulled two black teeth from each mouth. They all got well and made fine hogs. E. B.
Fitchburg, April 11, 1870.

COWS SUCKING THEMSELVES.

A correspondent inquires for a remedy to prevent a cow from sucking herself. If he will take a pair of bridle bits, put them in the cow's mouth just the same as though she were a horse, and let her wear them there, it will not prevent her from eating, but will entirely stop her from drawing her milk. Splitting the tongue is barbarous, and will do no good. T. L. HART.
West Cornwall, Conn., April, 1870.

—The Directors of the Sacramento Valley Beet Sugar Association have determined to enter largely this year into the manufacture of sugar therefrom.

PRESIDENT W. S. CLARK.

The Massachusetts Agricultural College, of which this gentleman is President, proposes to educate farmers' boys. It is, then, no idle curiosity that prompts inquiries as to the qualifications and fitness of him to whom the instruction of the students and the management of the institution have been entrusted. The influence of the head man in all associations is a well acknowledged fact. Under the leadership of one man, a campaign fails; when commanded by another officer a campaign, by the same soldiers, is crowned with success. The same is true of commercial, manufacturing, financial and educational movements. We believe, therefore, that the following abstract of a biographical sketch of Mr. Clark, published in the Amherst *Record*, will prove interesting to many of our readers in Massachusetts and elsewhere:—

Mr. Clark was born in Ashfield, Mass., in 1826; graduated at Amherst College in 1848, $700 in debt, which he paid, with interest, by teaching in East Hampton Seminary. He adopted the science of geology as a specialty; worked two years on the cabinets connected with Amherst College; and was appointed mineralogist to the geological survey of Vermont. To "finish his education" he went to Europe and after pursuing a two years' course at the University of Gottengen, and graduating at that institution, he swung his knapsack and made a tour through Switzerland, France, &c., mostly on foot, visiting the Universities on his way, and having interviews with Humboldt, Liebig, and other men of scientific note; paying his respects, also, to Vesuvius, in 1857, when that volcano was in an unusually excited state, and ascending the mountain when it was considered so dangerous that it was with difficulty that he could induce a professional guide to accompany him. After returning home, he was appointed Professor of Chemistry in Amherst College.

When the war broke out he drilled the students at Amherst, and in August, 1861, went to Annapolis as Major of the 21st Massachusetts Regiment. Thence he went to North Carolina with Burnside's expedition. In 1862 his regiment participated in eight battles—Roanoke Island, Newbern, Camden, Bull Run, Chantilly, South Mountain, Antietam, and Fredericksburg. After the battle of Roanoke Island he was appointed Lieut. Col. At the battle of Newbern he made a gallant charge upon a battery of six guns, one of which, an eight-pound brass piece, they captured, he being the first one to mount the gun. As a compliment to this bravery, Gen. Burnside made him a present of the piece. It was sent to Amherst College, and is now to be seen in the library building, with the names of the men who fell, engraved upon it. He was now appointed the Colonel of the regiment. During this eventful period, his men disappeared on the battle field like magic, and on the second day of the battle of Antietam, only seventy-five effective men remained of the regiment. Soon after they

were assigned to another regiment. Col. Clark now took command of some eastern troops, crossed the Alleghany, and for a time was stationed at Mount Sterling, Kentucky.

Col. Clark was a member of the legislature of Massachusetts in 1864, '65 and '67, the latter year receiving all but seven votes out of 772. In 1866 he was appointed Professor of Botany in the Agricultural College, retaining at the same time his professorship in the old college.

In 1866 he was appointed President of the institution, and on the second of October of that year the first class met to receive his instruction in the first term of that institution.

In 1853 he was married to the adopted daughter of Samuel Williston, East Hampton, Mass., and has seven children now living.

"THE SOUTH LAND."

Since the close of the war a large number of agricultural papers have been started at the South, and we have watched their progress with much interest, believing they were the natural result of a resolute purpose to begin at the foundation of real improvement of the interests and prosperity of the people of that section. Having a practical knowledge of the "creeping before we can go," which nearly all agricultural papers experience in their infancy, and which is well illustrated by the fact that for several of its first years the weekly circulation of the NEW ENGLAND FARMER was short of five hundred copies, we have sympathized with the publishers of these new papers at the South. Some of them, it is true, appear to have started off at once in the full vigor and strength of manhood, while others have had a longer "day of small things." The latter we judge has been the experience of the *Southern Ruralist*, which has shown a wonderful tenacity for life, and after many changes and migrations, now appears, together with the *Gulf States*, as *The South Land*, published at New Orleans, weekly at $4, and monthly at $2 per year; D. Redmond, Editor; "The South-Land Company" publishers.

The following extract from the salutatory of the *South Land* will indicate better than any words of ours the ability and spirit of our new contemporary. After a brief review of the past history of the South, the editor says:—

In the Southern culture to which we advert, the distinguishing and decisive factors were the planter, the political leader, the forensic orator, the punctilious cavalier. These would have done well enough in co-operation with other elements; but by themselves they proved wofully inadequate to fill the circle of a consummate development. In those days, the artist or the artizan, of Southern origin and education, was rare to such a degree as to be phenomenal. In those days, the applied sciences, outside of what are called the learned professions, could boast of few Southerners among their votaries. In those days, literature was scarcely known in the South, except as an elegant pastime. In those days, the press of the South was for the most part rather an incident in the plans of politicians, than a political power in itself; and the rising politician was supposed to have his editor, as the knight of old was supposed have his esquire. Few Southern papers could then afford to be independent, because few were then self-sustaining. Had literature taken a firmer root there, had the press been a more powerful and fruitful institution there, had industry been more diversified there, had culture been more comprehensive and manifold there, it is not conceivable that, for the South of ten years ago, such a catastrophe, as actually befel her in the intervening period, could have impended.

But we feel persuaded that in respect to all the requisites of a complete and symmetrical development the South is to grow hereafter as she never grew before. Nothing less than the assurance that the future of the South is to be widely different from her past, and infinitely more satisfying than her present, could have prompted, or would have justified, the enterprise to which the founders of this publication have deliberately and unreservedly committed themselves.

THE RAPE PLANT.

In Fond du Lac and Calumet counties, Wisconsin, some of the German farmers have introduced the cultivation of this oil-producing plant, so generally cultivated in Europe. The quantity marketed at Fond du Lac in 1865 was 4000 bushels, and in 1866 over 20,000 bushels. About two gallons of oil are made from a bushel of seed. The *Prairie Farmer* says, the average yield of rape seed by good farmers has been from ten to eighteen bushels per acre; though some have raised as high as thirty-five bushels. The price for a series of years has ranged from $2 to $2.50 per bushel. So far from impoverishing the soil, it is found that the ground, the year after a crop of rape is taken off, will yield from five to eight bushels more of wheat than it will if any other grain has been sown. The soil is also in excellent condition for almost any other crop. The chaff is relished by cattle, and when it is mixed with roots it makes an excellent food. The straw may be used for bedding purposes. The rape seed cake—the portion that remains after the oil is expressed—is a most valuable food for cattle. As a food for dairy cows it has long been celebrated in Europe. The ground cake has sold this year at from $16 to $20 per ton.

HOW TO KILL LICE ON CATTLE.—A correspondent, "R. N," of the *Country Gentleman*, "dissolved about a pint of strong soft soap in a pail of warm, soft water, and saturated the whole surface of a lousy cow's body with it; after about thirty minutes, repeated the operation, and in thirty minutes longer took a pail of clean warm water and quickly and thoroughly washed out all the soap water and dead lice in large quantities, put her in a warm stable and covered her with a dry blanket. The next day, after being thoroughly dried, she looked, and seemed to feel, like a new animal; more than doubled her quantity of milk within twenty-four hours and immediately commenced gaining flesh and general thriftiness.

MILK, BUTTER, CHEESE.

As the season for dairy operations is at hand, we gather up and give below some of the most important facts stated during the late winter meetings. Some of them will tend to encourage these operations, while others may afford valuable suggestions.

According to Mr. Willard, of Herkimer County, N. Y., American dairying now involves a capital of more than $700,000,000. The cheese product sold last year for more than $30,000,000, and the butter product for at least $150,000,000! In 1865, the butter product of New York alone was estimated at $60,000,000. That year there were thirty millions of gallons of milk sold in the State, which, at four cents per quart, amounts to nearly $5,000,000. The cheese product of 1869, 240,000,000 pounds, and the butter, 700,000,000 pounds, both together, representing a value of $215,000,000.

These totals will be greatly increased, when one-half of the butter made is fit to eat, and our people have learned that cheese is a cheap and healthful article of diet; cheaper than meat, and decidedly better as food in warm weather.

The American system of butter-making, the same writer states, is based upon five main principles:—

1. Obtaining rich, pure milk.
2. Setting the milk aside for the cream to rise.
3. Proper management in churning.
4. Expelling the buttermilk.
5. Thoroughly salting and packing the butter in oaken tubs, tight and clean.

What really distinguishes the American system is in the manner of setting the milk so as to secure an even temperature.

A successful Pennsylvania dairyman gave as the rules by which he manufactured his well-known butter, these three:—

1. Attention to the food of his cows.
2. The temperature.
3. Neatness and refinement at every step of the process.

The remarks of Dr. Middleton Goldsmith, at the Dairymen's Association at St. Albans, in January last, evinced much research, and abounded with valuable statements and suggestions. He regarded the cow as a factor, a mere machine, whose proper function is to convert food into butter and cheese, and in her perfect development she is adapted to *one* and not to both. Cows differ. Some are butter cows, some cheese. Which ever product the farmer desires to make, he should inquire carefully and scientifically which breed [or, which cow of any breed—Ed.] is best adapted to the purpose.

Other things being equal, cattle consume food in exact proportion to their live weight. He detailed a method of testing the product of cows by a glass tube which, we believe, is a common practice in New England. These tubes may be procured in Boston for a few cents each.

Having decided what breeds are the best for certain purposes, the next vital question is that of food. The real question is not the nutritive value of the different kinds, but the money value of the product. This, however, is complicated with varying values in different localities and with climate. He believed the question of

Feeding Roots,

the most vital at the present time in the State of Vermont, and in settling it the cost of production and their market value should be considered. He would have it tested practically, by feeding hay alone for a time and then hay and roots conjointly, carefully testing the product of each experiment. The next question of importance is,

How to Preserve Butter.

It *can* be preserved. There is no doubt of this. In 1839, the Doctor said he ate good butter in Canton, China, that was made in Ireland two years before. Hassal says that the best butter has three per cent. of curd, and bad butter much more, and that rancidity is owing to changes in the curd.

The leading point in the Doctor's remarks

were, that the Association they were then inaugurating should investigate these questions and disseminate their knowledge, and it must secure the means of indemnifying able committees who make the investigations. "We have," he said, "no great institutions as they have in France and Germany, where they can be tested at public expense. * * * Whatever its intent, the Agricultural College grant has done little or no good to agriculture, and he questioned if it ever will till it passes from the control of literature into the hands of farmers."

An address was made by the Hon. THOMAS G. ALFRED, of Syracuse, N. Y., upon "*Salt and its uses in the Dairy*," and an interesting discussion was held upon "*Breeding of Dairy Stock*."

The whole proceedings of the Convention should be published in pamphlet form, and made available to all.

DISSOLVING BONES WITHOUT VITRIOL.—The value of bones for manurial purposes is well understood by farmers; but mills for grinding them are expensive, and vitriol for dissolving them is dangerous stuff to handle, as well as expensive also. C. T. Alvord, Esq., of Wilmington, Vt., announces, in the *Rural American* a discovery that may be valuable to many farmers. He has found that a hen's gizzard is a good bone-mill, and their gastric juice a practical substitute for the burning acid. Then with a little of that patented material known as "Dry Earth," placed under the roosts, a domestic guano is produced which proves to be one of the most valuable manures that are made on the farm or that can be bought in the market. As the bones are collected they are carried to a flat stone under his shed and pounded with an old axe or hammer just fine enough for the hopper of his hen-power mill; and this is all the time or labor required to secure most a valuable superphosphate. As hens in winter are unable to obtain insects, worms, bugs, &c., on which they feed in summer, they eat the pounded bone greedily, and pay for it not only by the manure produced, but by an increased quantity of fresh eggs, always acceptable and always valuable during the winter months.

—A correspondent of the *Rural New Yorker* says, a mare should not be used for breeding until five years old. Old age does not make any difference, if the animal is sound, and of a good constitution. By all means use your best mares. I have a colt foaled June 2d, 1868, that was awarded three first premiums last fall. The dam is twenty-two years old, and now, at the age of twenty-four, is with foal."

For the New England Farmer.

POTATOES.

Manure and Cost of Cultivation—Different Varieties—Facts and Theories in relation to the Rot—Preventives, &c.

As seed time is upon us again, I propose to give you a few notes upon the potato, taken from my farm journal.

I take issue with those gentlemen who believe that the Orono, as a variety, is running out. I have raised them the past ten years, and I never had better or handsomer potatoes than I harvested last fall. Their quality is not excelled by the Excelsior or Early Rose, grown on the same piece. The ground is a ridge of dry land; no manure was used except a compost prepared as follows:—four bushels leached ashes; one peck lime, slacked with brine as salt as salt would make it, and one peck gypsum. A handful of this mixture was put in each hill. The account stands as follows, which I take from my farm accounts:—

1869.	*Potato Crop Account, 1¼ Acres.*	Dr.	
To breaking up last fall,		$7 50	
May 12, to harrowing,		2 25	
" 20, " planting,		7 75	
" " " compost, estimated,		2 25	
" " " 3½ bushels seed,		4 25	
June 14, " cultivating,		1 50	
" 21, " hoeing, 3 hands 9 hours,		4 05	
" 25, " " 4 " 6 "		3 60	
Oct. 6 to 18, " digging potatoes,		14 00	
" interest on land,		8 00	
Total,			$55 45
Profit on crop, to balance,			34 55
			$90 00
	Cr.		
By 200 bushels potatoes, at 45c,			$90 00

It will be seen that the whole cost of cultivation was $55.45, making the cost of the potatoes twenty-six and one-half cents per bushel. The 200 bushels include 15 bushels Early Rose, 12 of Early Goodrich, and 4 of Excelsior, which, if sold at market prices for these varieties, will increase the item "Profit on Crop."

In keeping this account I have charged fifteen cents per hour for labor, the same as we pay for good hands who board themselves.

I doubt the practicability of the theory of bringing potatoes from the mountains of Peru, in order to obtain varieties that will be free from disease after they have been cultivated and improved so that they will be fit for human food. In my opinion it is forcing, feed, and manipulating which renders the plant so much more susceptible to disease than in the wild state. I believe the disease is caused by a species of fungus, similar to the rust plant that attacks wheat and other grains. Microscopists tell us that this fungus, when put under a powerful microscope is found to be a perfect plant, to grow and ripen seeds. These minute seeds or spores are floating through the air, and at certain seasons and under certain circumstances attach themselves to the leaves and stalks of the plant, and use the sap that was to go to the development of

the plant itself, thereby causing it to wither and die before it had arrived at maturity. Before the circulation between the plant and tuber ceases, the disease may be transmitted from the former to the latter through the pores, or the minute seeds may be washed from the plant through the soil directly upon the tuber, where it soon germinates, causing the tuber to turn black and decay. I am confirmed in these views by the following observations, which were noticed at the time:—

The 10th of September was cloudy and misty. There was moisture enough to render the potato plant soft and flabby. Four or five hot days followed. Up to this time the tops of the Orono, Excelsior and Harrison were flourishing. The Early Rose were ripe and in the cellar.

The 16th I noticed many of the leaves had turned black, and gave off a rank and disagreeable smell.

The 17th was also cloudy and misty, and cleared off warm and muggy. I soon noticed that the black leaves increased, and in some localities the plants began to die. The attack, however, was not very severe on my field, for the reason that I used no rank, unfermented, nitrogenous manures to cause a vigorous growth of tops; and this, I believe, is the whole secret. The ranker the tops, the more capable they are of receiving the rust plant, the cause of the disease.

Sept. 25th, dug twelve bushels of Oronos; tops green, with the exception of these black leaves, and an occasional dead stalk. Not the first sign of disease was observable on the tubers. We selected one bushel from this lot and exhibited them at our State Fair, and they were awarded a premium.

Sept. 28 had a hard frost, the first of the season of any account, which killed the vines.

My time being taken up at the fair, and by the great freshet of Oct. 4, I had no opportunity to dig again until the 7th. Then I found that the disease had commenced on the tubers, some of them showing black spots around the eyes. It seemed to increase up to the 18th, when I finished digging. We were very careful to throw out all that were infected; yet the disease prevails to some extent at the present time. In picking out some for market, a few days since, we found about one bushel in ten infected.

Now, in my opinion, the potatoes that commenced to decay after they were put into the cellar, were contaminated before the circulation ceased between the top and the tuber. These very minute rust seeds might have been conducted through the pores by the circulation of the sap, the same as the smut is conveyed to the newly-formed grains of wheat when they grow and perfect themselves on the tender, milky substance of the new kernel; or they might have been washed down by the heavy rains between the 4th and 13th, and after the potatoes were carried into the cellar the spores commenced growing.

The only way to guard against this scourge is for farmers to be more observing,—try more experiments, by planting at different times and with different varieties, and using different fertilizers; making a note of the result, and not trust to memory, and then compare results with others. When a variety is found that is hardy and of good quality, procure it. When a method of manuring, seeding and cultivating is found that gives better results than others, practice it. If you applied 10 or 12 cords of manure to your acre last year and lost three-fourths of your crop by rot, is it not sufficient reason for you to adopt a different course this year?

My Early Rose were put into the cellar the last of August and the first of September. I have not seen a diseased tuber in the lot, and the quality is unexcelled. The Excelsiors rot the worst of any. The Harrisons are free, but the quality is very poor.

This year I shall discard all kinds but the Early Rose and Orono. The last named is the only one we can sell here for the Boston market. S. C. PATTEE.

Warner, N. H., April 4, 1870.

REMARKS.—In connection with the publication of the foregoing interesting and valuable article, we wish to ask our correspondent and other potato raisers if they have ever experimented with lime as a destroyer of the germs of the disease which may attach to apparently sound tubers when put in the cellar. A statement that a sprinkling of lime on the potatoes as they are packed away will prevent subsequent rotting has been copied into many agricultural papers.

For the New England Farmer.

WHAT SHALL WE DO WITH OUR CORN?

The advocates of a larger production of corn in New Hampshire who met in mass meeting in Manchester and Concord did not tell us how to use corn. One correspondent of the FARMER says "we need a large amount of corn or some kind of grain to make beef."

The foundation of our beef is milk. There is nothing better in summer than good grass to produce milk; next to grass is corn fodder, grown purposely for food. No corn meal is needed. It cannot be fed profitably, even at seventy-two cents per bushel, with grass or green corn, plenty, when milk alone is the object.

For milk in winter, there is nothing better or cheaper than early cut and well cured grass. We have a cow seven years old, which dropped her calf Jan. 17. Her milk of Fri-

day, Jan. 28, with that of Saturday and Sunday morning weighed seventy pounds, and yielded seventy-seven ounces of pure butter, free from buttermilk or salt. She ate nothing but early cut hay; no grain of any kind or roots. Another week the same cow averaged thirty-three pounds of milk per day; the increase was caused by the addition of a quantity of grain.

We may be sure of a rich and abundant flow of milk both in summer and winter without grain. With plenty of milk we can keep our calves through the first winter in a thrifty condition. After that, good pastures in summer and *good* hay in winter will produce beef without grain.

Col. Clough, the king of corn growers in Merrimac County, remarked at the meeting in Concord that his principal income was from beef sold from his pastures. Grain is not needed for the production of such beef.

It was said that 1,500,000 bushels of corn were produced in New Hampshire, and that we purchased 1,000,000 bushels more. What is done with the corn purchased? More than 700,000 tons of hay are annually produced in New Hampshire. It will require more than 1,000,000 bushels of corn to make up the loss on the hay crop, occasioned by cutting late, and improperly curing it. But at that meeting not one word was said of the loss the State sustained in its hay crop, through ignorance and carelessness; while much eloquence was wasted in urging the production of more corn, to the exhausting of our fields—for it is an exhaustive crop,—to supply the want of hay.

To me this seemed like an effort to save at the spigot while wasting at the bung. We can buy corn at the West at prices which will pay to make it into beef and pork here, to be sold in competition with beef and pork from that section. What argument, then, can be brought against buying corn? Well fattened Eastern pork will sell for more money than the same pounds of Western pork. While the Western farmers are pushing their corn and wheat through our ports to find a European market, why should we not stop as much of it as possible upon our State hills to enrich them, so that when the time comes, seen by your correspondent, at no distant day, we may be better able to produce the corn the West will refuse to sell us, or railroads refuse to transport at living rates?

"Where neat stock is kept, the advantage of having the fodder ought to decide in favor of raising our own corn." We would urge all Eastern farmers to raise corn for fodder. We believe an acre of corn grown for fodder alone, to be worth as much to feed to stock, if cut and cured at the proper time, as the product of the same acre in ripened corn, though produced, as the former may be, with much less labor, and at a season that will not interfere with haying, and with the advantage in the former crop of immediately preceding grass, the most profitable of all our crops. We would never sell hay to purchase with the proceeds corn as a substitute. The farmer should make and sell flesh, rather than sell the flesh-forming products of his farm.

At the meeting in Concord corn was valued at $1.50 per bushel, and that by farmers who consumed the corn they raised. It was at these figures that they found their profits to be 100 per cent. At the same time corn could be purchased for $1.25 per bushel.

If there was a profit of twenty-five cents per bushel in feeding, the State might have gained $250,000 by purchasing 1,000,000 bushels, as it did last year. The purchasing of that corn need not in any way interfere with raising all we otherwise could. F.

Mast Yard, N. H., April, 1870.

For the New England Farmer.

LETTER FROM VERMONT.

Dairying—Cheese, how to Cut and Keep; Price and Scarcity—Oats—Arnautka Wheat—Barley—Preserved Fruits—Crab Apples—Apple Orchards—Black Naples Currant—Apple Tree Nurseries.

While attending a meeting of the Glover, Vt., Farmers' Club, and assisting in the discussion of Dairying, I had the pleasure of tasting a piece of the cheese that drew the first premium at our fair in 1869. The process of making, as furnished by Mrs. Brewster, was published a few weeks ago. I send you a piece. Although it is about twenty-one months' old, it is free from mould. It was cut in October by its owner, Benjamin Hancock, of Glover. When a slice is taken out, the cut surface of the remainder of the cheese is spread over with butter, and a piece of paper stuck on to keep out the air. The cheese is covered to protect it from air and cold weather. Where a whole cheese, of fifty pounds weight, is bought by a small family, some such device is necessary to prevent mould and drying. Cheese retails here at 23 cents per pound. There is little in our market now, and sometimes there is none.

Cereal Grains.

I send you some packages of grain raised from seed received from the Department of Agriculture, and also of the Norway oats—Ramsdell's.

The *Somerset oats* are a very early variety of English oats. I sowed them May 5, headed out July 15, ripened August 5; straw, large and stiff; yield fair, but sowed only one quart.

White Schonen Oats, from Germany; sowed two quarts; yielded over two bushels; ripened August 15; grain plump; several stalks from one seed; a promising grain.

Black Swedish Oats, ripened late,—September 12; good thrifty grain, but too late; with a beard on most every kernel. They are quite different from Norway oats in style of growth, and other respects.

Norway Oats. The package I send you is of a second crop from seed obtained of D. W. Ramsdell. In the spring of 1868, five bushels of seed were bought and divided in this neighborhood. The best yield was from one bushel sown by S. B. Brewster, whose crop was fifty bushels. These were mostly sold at from $2.50 to $3.00 per bushel. In 1869 the yield was good, but not as high as 100 bushels per acre in more than one instance. Several men had each from 200 to 300 bushels. These were sold to Ramsdell & Co. for one dollar per bushel. One or two carloads have been shipped from this county during the past winter, but most of the lots in this town have not yet been called for, and are held with some uneasiness by the farmers who are anxious for their money. Some lots can be bought at a trifling discount. In most cases these oats have fulfilled the reasonable expectations of the growers, in heavy growth, freedom from lodging, and good yield of grain, weighing from thirty to thirty-seven pounds to the measured bushel.

Arnautka Spring Wheat, is a heavily bearded variety, with short, plump heads; the grain is light colored and very flinty. I raised nearly three bushels, and have sold three pecks at $1.00 a peck. I have had no experience with the flour from this wheat, but some fears are expressed that the bran will break so fine as to mingle with and darken the flour.

The *Saxonian Barley*, a two-rowed variety from Hamburg, is very productive. I have about two and a half bushels. Sowed three packages of seed.

Preserved Crab Apples.

I send specimens of preserved fruits put up last fall. The crab apples are of the "Queen's Choice" variety. They are not as large as some others. My fruit is about one and a half inches in diameter; large enough to pare for pies or to eat—for which purposes they are very good. We like them best preserved. Make a syrup of sugar and water, one-half pound sugar to a pound of fruit, and boil the fruit in this syrup about ten minutes. Some American Fruit Preserving Powder was also used. The apples retain their shape and are considered very palatable. The crab apple has been sold all through the northern part of Vermont, of many varieties,—some larger and some smaller than those I raise. They are also recommended for cider. The trees bear every year, and are very ornamental as well as useful.

The Black Naples Currant.

While growing, these currants have an unpleasant muskiness that excites at first a prejudice against them. We make a preserve with one pound of sugar to one pound of fruit, cooked together. This preserve has a peculiar richness of flavor that commends itself to the taste as one becomes accustomed to it.

As most of the apple orchards of native trees died out a few years ago, and common apples that used to sell at twenty-five cents per bushel, are now sold at one dollar or more, the farmers very generally look to other sections of the country for their fruit. But more recently a nursery has been growing up in our midst, where, by careful experiments, the hardy sorts of fruit are tested and selected for propagation and sale, and the prospect is that Northern Vermont will raise enough apples for home consumption, and a pains-taking man may have a pear tree or grape vine, yielding its regular crop.

Irasburg, Vt., April, 1870. Z. E. J.

REMARKS.—Our attentive correspondent will accept thanks for his many favors.

MAKING SOAP.

Every farmer's wife is proud of a good barrel of soap, but some are so unfortunate as to seldom get one. They try hard enough, but the ashes are sometimes poor, or the right proportions of lye and grease are not used; at other times the soap appears to be good when put up, but changes entirely after standing a few days. The last trouble usually arises from getting the soap too strong and diluting with water. If very strong, it will be thin and dark, and by adding cold water and thoroughly stirring, the color is changed many shades lighter, and the mass thickened, giving it the appearance of a number one article, when in reality it is very poor.

Hickory ashes are the best for soap making, but those from sound beech, maple, or almost any kind of hard wood, save oak, will answer well. A common barrel set upon an inclined platform, makes a very good leach, but I much prefer one made of boards set in a trough in V shape, for the strength of the ashes is better obtained, and it may be taken to pieces when not in use, and laid up.

First, in the bottom of the leach put a few sticks; over these spread a piece of carpet or woolen cloth, which is much better than straw; put on a few inches of ashes, and from four to eight quarts of lime; fill with ashes, moistened, and tamp down well—tamp the firmest in the centre. It is difficult to obtain the full strength of ashes in a barrel without removing them after a day's leaching, and mixing them up and replacing. The top should be first thrown off, and new ashes added to make up the proper quantity. Use boiling water for second leaching.

Take about four gallons of lye, and boil up thoroughly with this twelve pounds of clear grease, then add the lye as it is obtained, keeping a slow fire and stirring often, until you have a barrel of soap. After boiling the grease and four gallons of lye together, it may be put in a barrel and the lye added there, which will form good soap if frequently

stirred, but the heating process is the best when weather and time will permit the work to be done.—*Ohio Farmer.*

$100 IN PREMIUMS FOR INDIAN CORN.

Fully convinced that this vastly valuable crop can be greatly increased by the judicious selection of seed, the subscriber offers premiums for corn grown in New Hampshire in A. D., 1870, as follows:—

For the best 100 ears of eight-rowed Corn . . .	$35 00
" 2d " " " " . . .	15 00
For the best 100 ears of more than eight-rowed Corn	35 00
For the second best 100 ears of more than eight-rowed Corn	15 00

Same number of twin or triple ears upon the stalks, received same as above. The traces must be secured by cords upon boards or otherwise, so as not to break, and reach the subscriber at City Hall, Manchester, by noon of the last Tuesday of December next, at which time and place the awards will be made. Size, beauty and quality, both of the ears and grain, to be considered in awarding the prizes. Each 100 ears must be grown upon one farm, and upon plots of not less than one acre. The four premium traces to be retained by subscriber for distribution. Method of cultivation must be furnished in writing, or made verbally at time so it may be written. New Hampshire's best farmers believe that more than two hundred thousand dollars a year of the money now sent out of the State for corn, could be saved by a judicious selection of seed corn.

Farmers, freely giving you my time and money, I earnestly pray you to make an exhibition that shall honor yourself and the State.

The committee are to have no means of knowing the owners of the corn until after the awards are made. The Committee are as follows: Levi Bartlett, Charles H. Hayes, James O. Adams, Wm. H. Gilmore, Gen. A. Hoyt, Gen. Ezra Glidden, C. N. Healey, D. M. Clough, T. E. Hatch, M. D., Hon. Charles Jones, Parker W. Horne, Rei Hills, W. D. Locke, Thomas Lane.

Vacancies filled by the subscriber. Corn now on hand given away for seed.

J. D. LYMAN.

Exeter, N. H., March, 1870.

BEE NOTES FOR APRIL.

This is a very important month with the bees, indeed it may be said that the month of April decides the prosperity of most stocks. Bees need and should have considerable care during this month. Strong colonies have been breeding more or less for the past three months, but now they commence in earnest and the last of this month should find them very populous, and drones ought to appear in good stocks by the first of May. Finely ground unbolted rye flour fed to them now is very important, so much so that no good bee-keeper can afford to have his bees without it. Spread it about an inch deep in shallow troughs, and put it about a rod from the hives. On all warm days they will not be slow in convincing us that they fully appreciate the favor we have conferred upon them. This answers the purpose of fresh pollen (bee bread,) and is eagerly appropriated until the real article can be obtained from flowers. This feed stimulates early and extensive breeding, and also helps to lengthen out the supply of honey until flowers appear, so that no swarm dies for want of a few pounds more honey. It would be a shame for them to come to grief now, when they are so near through. I have no doubt that a judicious feeding of about three-fourths of a pound of honey per day during this month and next, to even heavy stocks would be amply paid for in large early swarms and surplus honey during the season. But this would require some care not to excite robbing, and must not be omitted a single day.

The larvæ of the bee moth should be looked after as the season advances. In the morning there are usually more or less found on the bottom board stiff with cold, but if not destroyed will find their way up among the combs again during the day. If hives have not been properly ventilated, or from any cause, some combs are mouldy, cut them out now, for they are worse than nothing in the hive. All upward ventilation should be shut off now, if it has not been done before.—G. W. P. JERRARD, *in Maine Farmer.*

SURFACE OR MULCH MANURING.—For the reason that Nature applies her fertilizers upon the surface and does not plough them under, it is about time that agriculturists should consider whether they or Nature are right when they differ so radically in their practice.

Does Dame Nature make a mistake when she sets out to enrich a continent, by spreading dead leaves, and twigs, and trunks, and grasses, and *weeds* over the whole surface for years and years and thousands of years. Does Nature mistake when she interposes a leaf before the beating rain drops, and saves the earth from being pounded into the semblance of a brick—keeps the soil light and porous that the air carrying its ammonia and its carbonic acid may penetrate to the waiting roots below? Is she going wrong when she lays a mat of decaying humus over the soil, and only allows the searching June sun to get to the earth as a gentle heat, incapable of drying up the moisture held there by the mulch? Or are *we* wrong when we hide away our fertilizers at the bottom of a furrow, and leave the surface bleak and bare, to be beaten down with the rain, and baked with the sun, and in that condition to refuse the good gifts which the air is willing to yield up to a moist and porous soil?—*H. H. McAfee, in Western Farmer.*

[Entered according to Act of Congress, in the year 1870, by R. P. EATON & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

RURAL ARCHITECTURE.

BY GEO. E. HARNEY, Cold Spring, N. Y.

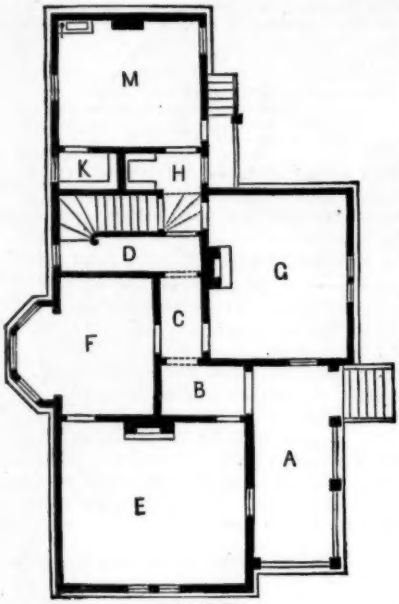
DESIGNED AND ENGRAVED EXPRESSLY FOR THE NEW ENGLAND FARMER.

No. 3.---AN ECONOMICAL VILLAGE HOUSE.

This design was prepared for execution near Boston, and comprises an amount of accommodation very often required in New England villages, besides being well adapted by its shape for a narrow village or suburban lot. We will suppose the lot to be sixty feet in width, (which is an ordinary frontage,) by a hundred or more in depth, and so located that the front veranda and entrance door will face towards the south. This will allow the house to be placed quite near the north line, or within, say, eight feet of it, and along the south side will be a foot path and grass, or a drive-way, as the owner may fancy,—there being about twenty-four feet left between the house and the south line of the lot. The house is placed upon a banking, so that the main floor is about five feet above the grade, and, approached by a number of steps, is the veranda, which shields the front entrance. The veranda is nine feet wide.

The arrangement of the plan is as follows: B is an entry, five by seven and a half feet, and C a passage four and a half feet wide, connecting it with the staircase, which, as there is but one, is placed somewhat away from the front door, both for greater privacy and greater convenience. The stairs are three feet wide and continue up to the attic. E, the parlor, is a pleasant room, fifteen by seventeen feet, to which it is proposed at some future time to add a bay window, projecting it from the front, where the mullioned window now is. F is the library, nine by thirteen feet. It has a bay window, opening from the north side and is intended to be fitted up with

dwarf book-cases about four and a half feet high on two of the other sides. G is the dining room, on the south side, measuring thir-



Ground Plan.

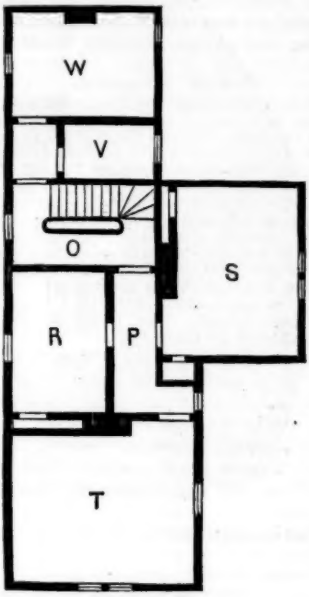
teen by fifteen feet, and having an outlook along the veranda to the street in front. H is a passage connecting the kitchen with the dining room. It has fitted up in it cupboards for china, as shown on the plan, and from it are reached the stairs to the cellar. K is a good-sized store room fitted up in the usual manner, and M is the kitchen, twelve by thirteen and a half feet. There is a door opening from it on the south side, communicating with the yard.

In the second story are four chambers, corresponding in size with the rooms below, except that spaces are taken off for closets. There is also a bath room in the kitchen wing.

The attic has one room and a large space for storing.

The cellar extends under the whole house, and has outside doors under the back stoop. The principal stories are nine feet high in the clear.

The house is designed to be built of frame, covered with hemlock boards and clapboarded, —the roof to be shingled. The eaves project two feet and the external finish is simple, but bold. All the windows have outside blinds, except those in the cellar. The inside finish is simple, in keeping with the general character of the house.



Chamber Plan.

COST.—This house was estimated upon in March, by a competent builder, for actual construction, and his figures were $2800 for completing the building ready for occupancy, including cistern and cesspool, but not including furnace, plumbing, or the grading of the banking.

THE DAISY.—Good words have been spoken for the Canada thistle, twitch-grass, and most other farm pests, by benevolent-minded agricultural writers, and now in Mr. Warren Ferris, of Otsego County, N. Y., the poor despised Daisy—known also as white weed, white daisy, ox-eye, &c.,—finds an enthusiastic advocate. In an article in a late number of the *Country Gentleman*, he offers to gamble on the superiority of the daisy over clover for enriching and improving land. He proposes that two acres of dry, worn-out land be taken for a test. On one acre a peck of daisy seed, and on the other a peck of clover seed, shall be sown, both without fertilizers; turn them both under when in full blossom, and sow both acres to any crop that may be chosen. Fifty dollars that the yield on the daisy land beats that on the clover land.

MR. WARE'S ADDRESS.

In our recent acknowledgment of the receipt of a copy of the transactions of the Essex County, Mass., Agricultural Society, we gave an extract from the address by Benj. P. Ware, Esq., a practical farmer, and we give below a few other extracts, regretting that we have not space for the whole address.

Progress in Farming.

"Within my remembrance, it was indeed a laborious task for a man to conduct the business of a farm successfully. He was expected to turn the double swath in the mowing field, to lead the hired men as they were desired to follow, to pitch on the hay, to hoe the hardest row—in short to bear the brunt of the work. Great physical strength, and endurance, as well as good judgment, were indispensable. But now what a change! To lead the labor of the farm does not require great strength and power of muscle, but brains are called into requisition, and skill in the management of machinery. He can overlook and direct those less skilled than himself, while riding around the fields on some of his machines."

By the use of machinery, some of which is simple and can be made by the farmer himself, he thinks all the root crops can be grown with about one-half the labor formerly required. He says, that the changing of an inferior variety of apples or pears for a superior one, is now so simplified by the use of a *liquid grafting-wax applied with a brush*, that no one need be without the best fruit who has healthy trees. But here is the difficulty. Who has *healthy* trees?

Potatoes and other Root Crops.

"The neighboring State of Vermont, has made such vast strides in the improvement of the potato as to cause those who have lived through the morus multicaulus, Rohan potato and hen fevers, to stand aghast, waiting for the excitement to abate, to see if Breese's No. 4 is really *two hours* ealier than the Early Rose! But all may be assured that great improvement has really been made in the potato. And yet there are persons among that numerous class who, because they lived upon a farm until seventeen years of age—and so, forsooth, 'know all about farming'—are asking what improvement has been made in agriculture?

Whoever heard, until within a few years of seventy-four tons of mangel-wurzel being grown upon one acre of land; of thirty-six tons of carrots, or 900 bushels of onions per acre? Such crops as these are facts that can be proved."

If it be true, then, as some French and German chemists estimate, that 250 lbs. of beet roots equal 100 lbs. of hay, "according to this estimate the above crop of mangolds would equal in value nearly thirty tons of hay; or, supposing the chemist's estimate to be only half right, the root crop would then equal fifteen tons of hay per acre!"

Mr. Ware states that it has been ascertained by actual experiment, that breeding swine can be kept upon raw mangolds alone from October to May, in good, thrifty condition. Can any one doubt, he adds, with such facts, the great advantage of growing this and other root crops?

Ayrshire Cows.

He thinks Ayrshire stock has proved the best adapted to our pastures, and, for milking qualities, heads the list.

Curculio---Fruit.

In speaking of the failure of the apple crop, he says:—

"By the use of printer's ink and tarred paper, from Nov. 1, to April 1, at a cost of from five to eight cents per tree, our orchards can be protected from the canker worm; and may again be blessed with abundant crops of that beautiful, delicious, and health-giving fruit. My own experience is that no part of my farm yields greater income for the labor expended than the orchard. If the crop is small, the price is usually large."

We wish this were so over broader regions. The wood upon thousands of apple trees in New England increases each year, the trees blossom abundantly, and plenty of apples are formed, and yet little or no crop succeeds.

If the cause of barrenness was the drought of four or five years ago, would the trees grow, and bud, and blossom, and set their fruit? We think not.

There is some cause acting upon the trees, as in the case of the button-woods, which we have not yet ascertained, and, perhaps, never shall. "Yet," we say with Mr. Ware, "let us [if we can] take heart, continue to cultivate the apple as a source of profit, of health to our families, and of growth to our social natures." We believe in a good exercise of faith in all things.

We should be glad to transfer the whole of this admirable address to our columns. Its opinions have been formed on the farm, amidst its multifarious duties, in rearing stock, preparing soils, and cultivating them with various crops of roots and fruits as well as grass and grain; in the use of nearly all the improved machinery and implements best adapted to avert human labor, and, more than all, in what will help the race to become upright, intelligent and industrious people. One or two extracts more will be all we can find room for at present.

Does Farming Pay?

"Yet, after all, does farming in Essex county pay? * * * * I need only to refer to the returns of the income tax to find instances where men by farming alone, have in this county returned annual incomes amounting to from $3,000 to $5,000,—enough to buy a good farm, with fair buildings. I could name an Essex County farm, of fifty acres, valued at $10,000, the gross products of which were enough in one year to pay for it. It was an unusual occurrence, but such was the fact for that year. * * * * I know of no kind of good farming that does not pay well, while no kind of poor farming will yield more than a poor living,—nor should it. Of course, any man who is a man, and cares for the comfort and happiness of his family, will see that abundance of vegetables, fruits, small and large, milk, eggs, and poultry are grown upon the farm for family use."

Pleasant and encouraging remarks were made at the dinner by Hon. M. P. Wilder, delegate from the State Board, by John Keeley, Esq., in relation to the decease of Hon. James H. Duncan of Haverhill, and by George Foster, on the death of Jonas Holt.

HORTICULTURAL SCHOOL FOR WOMEN.

A few weeks since we published the names of the officers of an association of ladies and gentleman of this city and vicinity, of ample means and liberal minds, designed to test the experiment of a horticultural school for women. The originators believe that certain branches of horticulture, such as flowers and small fruits, offer a healthful, appropriate and paying business for women, many of whom now complain of a want of honorable, remunerative employment in the various industries open to the other sex. But horticulture is a trade or an art that can be acquired only as other trades and arts are acquired. This association is now ready to afford the instruction and the opportunity for practice necessary to enable women to become practical horticulturists. Thus far, however, it is only a *proposed* experiment. As it requires two to make a bargain, the questions now arise, Do women wish to learn the art of raising flowers, strawberries, currants, &c., as a business? If any, how many will become pupils in the proposed school? Hence the advertisement which we recently published, soliciting correspondence with those women, either young or old, who are interested in the proposed school. The advertisement was published in our paper that the attention of farmers' daughters, especially those living near a good market, may be called to the subject. With the instruction that might be obtained in a short time at the proposed school, it is thought that many such "daughters" might return home, and, with the aid of the other members of the family, introduce upon the old homestead a new employment, a new source of income, and a new adornment of the country home.

For the New England Farmer.

ATMOSPHERIC MOISTURE.

Its Causes and Effects as Regards the Farm.

Read before the Concord Farmers' Club, February 3d, 1870, by FREDERICK G. PRATT.

The changes in moisture on the surface of the earth are probably caused by movements of the air in various ways, over which we have or can have but little control; and any facts I can find that bear on this subject, only prove how little we know, or can do, towards controlling these agents.

Thus we know that clouds are the result of vapor in the air, coming together in larger particles, so as to be sensible to the sight. These, growing larger, drop in the form of rain, hail or snow, according to the temperature of the air; or, conditions being different, these clouds become dispersed, the particles of moisture being separated,—the same *amount* of moisture in the air, perhaps, but more finely comminuted. Now is there any way in which we can control this moisture in any degree? I think there is. Look at this.

In the monthly report of the Department of Agriculture, for December, 1869, in summing up the reports from the various parts of the country, in regard to the extensive drought prevailing the past season, are to be found these words:

"A fair summary of reports from the entire district affected by drought would be: Fields badly tilled, overrun with weeds, or with a thin sandy soil, or a heavy clay not ameliorated by culture, —were scorched and partially or wholly laid waste; while deep soils of river bottoms, rich slopes of virgin soil, and fields kept clean of weeds, and frequently cultivated, gave satisfactory and even large returns."

There *is* one way to keep up the moisture in the soil. *Keep the soil constantly loose and light with frequent cultivating.* I think most of the farmers in this club have seen its value in our corn crop in times of drought. *It comes from allowing the air to permeate the soil.*

Again, in the October report of the Department of Agriculture, I find these true words:

"The great agricultural lesson of the season inculcates the necessity of draining and thorough culture. It is not an exaggeration to estimate the reduction this season over the whole country, from the alternate drowning and scorching of the farm crops, at two hundred million of dollars. Reports from drought-parched regions declare that crops are in fair condition on land well worked, and that the effect of the heat was aggravated by want of cultivation as dry weather set in. That on *drained soils*, properly cultivated, fine crops were obtained; while on wet or undrained lands, and fields neglected or half cultivated a failure was imminent. The crop returns of Great Britain (where the early season was similar to ours) enforce the same lesson, though a far smaller proportion of British lands are not underdrained or poorly cultivated."

At the West, in Colorado territory, I find several authorities which prove that the rainfall is steadily increasing there. One says:—

"That the rain fall has doubled there since 1860, and the dry, and formerly arid, sterile plain between South Platte and the mountains west, which enclosed an extent of country averaging twenty miles wide by 100 long, cut crosswise by valleys, has been irrigated by ditches, and the high prairies have been farmed with the best results. This cultivation, by increasing the growth of grasses, weeds and bushes, has also created greater evaporation and moisture in our atmosphere, which returns to us when our east winds blow in summer, in most valuable fertilizing showers. This year, 1869, no irrigation has been needed until late in the month, when most of the wheat, oats, rye and barley were so far advanced that irrigation would not benefit them. It is a matter of universal remark here among old settlers, that high prairies, miles away from streams, can this year be mowed with profit for hay, where a year ago, grazing in July and August was only indifferent, the soil bare in many places, and parched, or covered with worthless cactus or prickly pear."

This shows what a change comes over the land where the soil is worked, and a chance is given by grass and other plants to absorb moisture, and retain it, to give it out again more regularly the season through. So in Egypt, the Great Desert is being brought

under cultivation by the same means. Once start the plants by irrigation, and moisture seems to increase, we hardly know how, till land that never saw a shower, begins to feel the grateful rain; and the once sand, blossoms like a rose. The initial proceedings there were done by the Viceroy of Egypt, by means of Artesian wells, and once the water runs, grass and trees start up, rains fall, and plants grow with all tropical vigor.

All through Colorado and New Mexico are evidences of this increase of moisture visible. Strange theories are advanced in regard to it. The natives, Mexican and Indian, say the Yankee brings rain with him; and there seems some truth in it. Thus at Denver, the town was first built on what was then supposed to be the dry bed of Cherry creek, as natives did not remember of water running there. A tremendous flood washed the town, and now bridges span the bed, and water occasionally runs, though not always, as ditches above, for the gold fields use it all before it reaches Denver, except in times of rain. Many creeks in this vicinity, formerly dry the most of the year, now run constantly, and even *new* creeks have been formed in some instances. Ditches for irrigation, in some cases, have been allowed to go to decay, the increased moisture rendering them unnecessary, and oats and corn grow luxuriantly now, where three or four years ago nothing would grow.

Mr. Thomas says, in one of these reports, from which I have quoted freely:—

"With these facts before them is it strange the citizens of the territories should claim that there is a gradual increase of moisture? * * * Has the introduction of an active population into the country anything to do with this increase? I believe it has. But I am met by the objection that the amount of population is so small, compared with the extent of country. I admit the force of the objection; yet, until the climatic conditions of the country, and the relations of population to these conditions have been more thoroughly studied, the objection should not be allowed to prevail. We know not how nearly counter-balanced the contending agencies of aridity and moisture have been. The effect of opening mines in the mountains, stripping and burning the pine forests, making roads along the canons and over the plains, ploughing and planting the valleys, building towns, &c., &c., has not been sufficiently studied in the Rocky mountain regions to decide what number of individuals are necessary to disturb the climatic condition. Be this theory right or wrong, the *facts showing an increase* cannot be denied."

The same was true of Kansas, when the land was new. There is moisture enough there now.

There is another theory which has some claims to plausibility, that may upset the last one mentioned. Some writers think there is a cycle of years, say fourteen, during which time the rain fall has gradually increased the first seven years, and as gradually decreased the next seven. As it is a new theory, time only can determine its truth.

For the New England Farmer.

NOTES ON ILLINOIS AND ILLINOIS FARMING.

EDITORS NEW ENGLAND FARMER:—According to promise, and by your kind permission, I propose to say something under the above heading.

Theoretically considered, Illinois is a vast plain, not quite horizontal, being more elevated at the north than at the south; as is shown by the direction of the principal rivers within and about her borders.

On a practical examination of the surface, we find it everywhere more or less undulating, in many places hilly, but never mountainous.

The rivers, creeks and brooks within the State, have their origin, most generally, in the level prairies, and depend for their water upon the rains; which, falling upon the porous, loamy soil, slowly finds its way down the imperceptible declivities into the more regular channels.

Toward the middle mouths and junctions of the streams, the more regular woodlands and forests are found, and the land is more uneven and hilly. The largest and finest forests are found in the southern part of the State, yet timber is everywhere plentiful, except that the great width of the prairies, sometimes makes distant hauling necessary. Strange as it may appear, the woodlands rise in price much slower than the prairies. This fact is contrary to the predictions of all the early settlers, and may be accounted for on the ground that native timber is much less lavishly used than formerly. Everywhere live hedges, cheap and excellent, are taking the place of all other fences. Coal is cheap and abundant, and pine lumber from the north is extensively used for building purposes.

Our native forests continually reproduce themselves, and in the absence of prairie fires annually enlarge their borders.

The principal forest trees are the oaks, hickories, maples, elms, ashes, poplars, black walnut, mulberry, sycamore, &c., &c.

We have four distinct soils; 1st. The pale, or mulatto loam on the prairie ridges; usually free from gravel, but sometimes quite gravelly on the sharpest knolls.

2d. The black loam of the more level prairies, which is by far the most plentiful, and on the whole the most valuable soil we have. It is our great corn and grass soil; entirely free from stone and gravel, it is easily worked and naturally very fertile.

3d. The yellow clay loam of the woodland hills. This soil is fine for clover, wheat and potatoes. It is very retentive of manure, and, when once well enriched, becomes the strongest and most productive soil thus far mentioned.

4th. The alluvial black soil of the creek and river bottoms. This is Nature's best soil, made and manured to order. Always the first

to be used by the pioneer cultivator; and, always to the latest generation producing the largest and finest crops of everything valuable.

In Illinois, this soil most often occurs in small quantities together, and in very inconvenient shapes for cultivation; and, also, being subject to occasional overflow, its value is quite inconsiderable.

Besides the soils mentioned as being general, we have in a few localities a sandy upland soil, both prairie and woodland; good for crops ripening early in the summer, and for potatoes; quick, warm and easily worked, but not good to stand drought.

The subsoil is quite similar throughout the State. It is mostly a compact yellow clay, not quite impervious to water. I send you by mail a specimen of the four principal soils mentioned, and of the subsoil taken four feet below the surface on the level prairie.

Our principal Illinois *crops* are *corn* and *grass*. These are thrown into the market directly, to a considerable amount. But a much larger portion of them is converted into *pork* and *beef* before being sold.

All of our soils when *new* are good wheat soils, and the woodland clay soil is such at all times. Oats, barley, rye and potatoes do well generally; yet, nearly every farm is valued for its corn and grass-producing qualities, and for its stock-raising and stock-fattening advantages. The farmers of Illinois get most of their regular income from corn, grass, and their natural consequents, pork and beef. All other crops and all other products are secondary to these great staples. Horses and mules are good; sheep do well; wheat and the other small grains, fruits, potatoes, &c., are raised at special times and in special localities with profit.

Yet, after all, it is easily seen that *corn* is *king*, *grass* is *queen*, and *beef* and *pork* are *prime ministers* in Illinois agriculture.

In future papers I purpose brief descriptions of how some of our farm crops and farm products are managed. Truly yours.

JOHN DAVIS.

Box 50, Decatur, Ill., April, 1870.

REMARKS.—With the foregoing interesting commucation we received parcels of about one ounce of each of the four varieties of Illinois soil mentioned by the writer, and also a specimen of the subsoil, taken four feet below the surface of the prairie. These specimens we shall be pleased to show to any who may wish to see them.

IMPORTANCE OF GOOD COWS.—I had a cow from which we could not make over fifty pounds of butter a year, and that soft and white as lard. I had another that we could make two hundred pounds from in the same time, and solid, high colored, nice butter; but we could never get the butter without from six to twelve hours persistent hard churning. I had another yielding two hundred pounds a year of the very best butter, requiring only ten to twenty minutes' churning.—*David Goodall, in St. Johnsbury, Vt., Times.*

THE GROWING OF CABBAGES.

George N. Prescott, an experienced gardener of Manchester, N. H., who has raised cabbages extensively for the last ten years, furnishes the following statement to the *Mirror and Farmer:*

My land is a light loam, with a sandy subsoil. When I break up a piece for cabbages, I plough from ten to twelve inches deep. I prefer to plough in the fall. In the spring, I spread six cords of barnyard manure to the acre, and thoroughly mix it with the loam with the plough and harrow. I then furrow about three inches deep, the rows three and a half feet apart, and put into the hill a half shovelful of night-soil, well mixed with loam. I then cover the manure with loam, half an inch deep, with the foot, and make a smooth surface to drop the seed upon, and cover half an inch deep.

The next thing to be attended to is the black bug; it will sometimes attack the plants before they are hardly out of the ground. I have used plaster, and if it is kept on it will save the plants.

There has been for the last few years, a great complaint about stump-footed cabbages, and a great many causes suggested, the most common of which is the manure. In my experience, it is not the manure that causes the stump-foot, for I have used all kinds, night-soil the most, and it is rarely that I find a stump foot cabbage on my lot; if I do meet with one, it is on some hard spot where it has been made hard by turning at the end of furrows. I think that stump-foot is caused by hard, moist land, rather than by manure.

Any land that can be made mellow ten inches deep, will grow cabbages, if not too wet. In cultivating, care should be taken not to disturb the roots and leaves, as they are the sources from which the plants receive their food. I plant none but the best seeds that I can buy. For winter cabbages, I prefer the Stone Mason; for early use, the Winningstadt and improved Brunswick.

—To make a mare own her colt, a correspondent of the *Rural New Yorker* directs to tie the mare up beside the barn where she cannot harm herself; put a cord around the neck of a good-sized dog; let the cord be fifteen or twenty feet long. Let the dog be set on the colt, holding the former by the cord so that he cannot bite the colt. The colt will run to the mare for protection, and she will own and protect it immediately.

AGRICULTURAL ITEMS.

—A large vessel recently sailed from Boston for Cork, her entire cargo being Canada peas.

—The cranberry crop at Harwich, Mass., amounted, during the past year, to 3,761 barrels, which were sold for $39,590.

—The Agricultural Editor of the St. Paul *Press* says flax-culture proved unprofitable last year in Ramsay Co., Minn., from a variety of causes. The crop was good, but it was difficult to sell it satisfactorily.

—H. Stillson of Monkton, Vt., lost thirty swarms of bees during the past winter. Others in that section also lost their bees, and it is thought this great destruction of the honey bee is owing to the lack of bee bread, which they did not produce last season.

—The Fitch brothers of Hatfield, Mass., fattened last season, 100 head of oxen and steers, and 165 sheep; they also raised the past season 60 acres of tobacco, and have that and about 40 tons that they have bought on hand, making in all some 90 tons.

—Almost every country paper published in the northern portion of Ohio, contains accounts of numerous cheese factories being built in their respective localities. At the present rate of increase there will soon be a factory in every school district on cheese-making territory, not only in Ohio but in other States.

—At a meeting of the New England Agricultural Society at Manchester, N. H., April 14, it was decided to hold the fair in that city on the 6th, 7th, 8th and 9th of September. Colonel M. V. B. Edgerly, of Manchester was chosen chief marshal, and Colonel George W. Riddle, the treasurer of the society, was appointed general superintendent.

—The four famous oxen recently marketed in New York, and fed by George Ayrault, averaged 3,300 pounds live weight when killed, having lost eighty pounds each while at market. At one time the largest weighed 3500 pounds. It is said that no records can be found of heavier bullocks in England or elsewhere.

—To be able to successfully check the insect scourge and eventually to destroy the more noxious kinds, it is necessary to understand their habits—the moth that lays the eggs, where and when to look for them, when the transformation takes place, &c., and the remedies to be applied to destroy egg, larva, pupa, or adult insect.

—A remarkably severe snow-storm occurred in the south of France, on the shores of the Mediterranean, during the past winter. So deep was the snow, that hundreds of palm trees were crushed and flattened down by it, like plants when pressed in a herbarium. The olive, orange and lemon trees, in the same district were nearly all destroyed; but the palms, though for ten or twelve days encased in ice and snow, suffered but slightly. This fact leads geologists to doubt whether fossil palms necessarily indicate, as has hitherto been believed, the former existence of warm climates in the regions in which they are found.

—A committee of the Lexington, Ky., Farmers' Club have been appointed to examine a new hemp brake, the invention of a negro man, which was spoken of in high terms by some members of the association who had seen it in operation. Having read the discussion of the negro question by this club with much interest, we shall look for the report of the committee with some curiosity.

—If any dealer in evil prognostications should happen to run short of "stock in trade" any of these pleasant spring days, perhaps his drooping spirits will be revived by the fact that it is reported by some careful observer that exactly two hundred and twenty-four new spots made their appearance on the sun during the year 1869, and that it is predicted by some wise prophet that no corn will ripen in New England this year.

—The Lowell, Mass., *Journal*, gives the particulars of the sickness of a family in that city from eating a little raw ham, which subsequent examination proved to be filled with the trichina spiralis. Four of the children and the father and mother were prostrated, and for a time were in a critical condition, but with the exception of a lad about ten years old, they are doing well. Strange to say, two children have not been sick at all.

—One of the highest authorities on the subject of animal parasites is Dr. T. Spencer Cobbold, an Englishman. In a work just published, treating of trichinæ, he says that not a single case of trichiniasis in the living human subject has been discovered in Great Britain or Ireland. The animals have, however, been found in the bodies of some twenty or thirty individuals who died from other causes; and in every instance, it is thought, their presence was due to eating German pork-sausages, or other preparations of foreign meat. English swine are almost entirely, if not absolutely, free from the so-called disease.

EXTRACTS AND REPLIES.

DAIRY BARN.

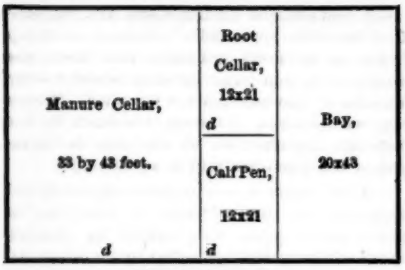
Having seen a number of plans of barns in your paper, I thought I would send you a plan of one that I think more convenient than those heretofore given in respect to putting in the crops and in the arrangement of the stables, the root cellar, &c.

I notice that in all that have been published the driveway is lengthwise of the building, by which a large space is occupied, making the stable too long, and necessitating room the whole length of the floor to feed the cattle.

My plan, supposes that the barn can be built on a hillside (although that is not absolutely necessary) driving in at one side. Hence one end and one side may be supported by a stone wall the height of the cellar; leaving the other and outer side and end to be built of wood or brick.

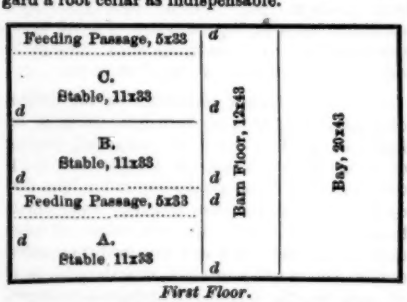
The barn is supposed to be built of wood, 65 feet long and 43 feet wide, with 16 feet post and a

steep roof. The outside to be covered with 17½ feet boards, planed and either battened or lined, and painted or not, as the builder prefers. The basement should be eight feet high.



Plan of Basement.

The size and arrangement of the apartments are sufficiently indicated by the Plan. The root cellar being directly under the driveway can be filled by a trap-door in the floor above. To make it safe against frost it should be built of brick or plank and filled on the sides and overhead with one foot of sawdust or chaff. Some advise not to go to the expense of building a root cellar, as they almost always prove failures. Such has not been my experience, after using one fourteen years at Essex Vt., previously to coming here, last April. I regard a root cellar as indispensable.



First Floor.

I would not have any partition between stables B and C. In stables A and B, the cattle face each each other. By building a leanto against the barn opposite the passage by stable C, another good stable would be secured either for horses or cattle with all the conveniences for feeding, &c.

The cows stand on plank four feet and ten inches long, with a drop of five inches and an inclination of one inch. The feed manger floor is made of matched boards. The cows are separated from each other by a plank one foot wide set up in the feed manger between their heads, and are fastened by stanchions. The stable floor should be placed on very *strong timbers*, and be made if possible so tight that the stench of the decomposing manure shall not affect the air of the stable. I would as soon omit to build a ventilator for the manure cellar as for the cow stable. Every cellar should be supplied with one. By all means give the cows all the light you can, and govern the air of the stable by well arranged air passages, avoiding as much as possible drafts of cold air. Bad air and sameness of food will cause barn itch. Feed sulphur when you do your salt,—and with other proper care, your cattle will not be troubled. Cattle never have barn itch that are kept out of doors.

As the bay extends below the floor, there is danger that if the hay rests against the brick or stone walks it will become musty. This can be easily avoided by setting up some poles six inches thick, and nailing on boards or slabs, leaving a passage for the damp air to escape through the cracks above the walls. The capacity of the bay is very much increased by its extreme height from top to bottom, and the amount that can be stored in it is truly surprising. No difficulty will be found in storing eighty or ninety tons of hay.

Allowing three feet for each cow you can put in thirty-three; by building the leanto, already alluded to, eleven more can be added; and by using the space under the barn floor, and cutting through the wall to throw the manure into the cellar, room may be found for fourteen more, making it a cheap barn in which to put fifty-eight cows. This barn can be filled on either side to the ridge by that useful invention the horse pitchfork, and the fork can be used in taking the hay from the bay when it is too low to pitch up with ease by hand. Also, the pullies may be used to haul up the roots from the cellar. My plan was copied with satisfaction by two or three of my neighbors.

E. J. BUTTOLPH.

Buffalo, N. Y., April 17, 1870.

LIME FROM GAS WORKS.

Can you inform me if gas-house lime is worth anything to put upon land? Some are trying it upon their land about here. No one seems to know what good it will do. It can be had at the gas-house for two cents a bushel.

Woonsocket, R. I., 1870.

REMARKS.—The refuse lime of gas-works consists,—according to Prof. J. F. W. Johnston, of England,—principally of a mixture of carbonate of lime with a variable quantity of gypsum and other salts of lime containing sulphur and a little coal tar. He says it may be used directly upon mossy lands, and upon stubble land in spring, when preparing for crops.

In composts it has a tendency to be converted into gypsum. In moderate quantity it may be safely mixed, he says, with barnyard manure. If applied too generously, it is liable to be injurious to crops of young grain. But grass lands, though at first browned by its application, soon recover and repay the cost by yielding a greener and an earlier bite in the spring. We should advise to use it cautiously, in moderate quantity, as sometimes at least, it contains properties that are fatal to vegetation.

At a discussion on Manures, by the Herkimer County, N. Y. Farmers' Club, Mr. Whitman, of Little Falls, said the lime from paper mills, and the gas-lime from the gas-works can be turned to good account when properly applied. At first he did not know how to use it, and by putting on too much the plants were destroyed. He now draws the lime to the farm in the fall and winter and puts it in heaps. In the spring he spreads it from the cart as the team moves along, by giving each shovelful a sweep or flirt by which the lime is evenly spread over the field. In one season he applied about one thousand bushels of gas-lime to his meadows, and thinks it paid largely in the increase of the crops.

A writer in the *Scottish Farmer* says he obtained a quantity of gas-lime one year, but applied it so

liberally as to destroy his crops wherever used. But the next season vegetation was much more vigorous where the gas-lime had been applied than elsewhere. He therefore resolved to make another trial but with more caution. Instead of applying it, as before, in the spring, he spread it thinly over the surface in the winter, and after it had remained there for some time ploughed it in. He speaks of it as a preventive of "finger-and-toe" or club-foot in turnips, &c.

The fact, however, that there is so little demand for this article, is perhaps *prima facie* evidence that farmers and gardeners do not find it a very valuable fertilizer.

THE WILLIAMSON WHIFFLETREE.

By the contrivance shown in the above cut, the Evener and the two Whiffletrees of a double team are combined. As one tug of each horse is attached to the centre, nearly one half of the usual weight of lumber may be saved. Boys whose patience is so often tried and found wanting by stray legs in turning their team about, will be glad to know that all this bother may be saved by the new whiffletree; and the poor horses that have suffered from galled shoulders will find relief by the wider spread given to the traces by this invention.

STRAWBERRIES FOR MARKET.

Please publish in the FARMER two or three of the best varieties of strawberries to cultivate for the market.

A WET MEADOW.

I have on my farm about four acres of low land that is almost worthless on account of its being so wet. There will nothing grow on it but briers and the poorest kind of grass. A sluggish stream runs through it which is full to overflowing in the winter and early part of spring, and the land for half a mile below is on about the same level with mine; but in the summer the stream is twelve or fifteen inches below the bank, and the land is quite dry, and hard enough to drive a team over it. I want to lay this meadow down to English grass, and any information from you how to do it will be thankfully received.

SEEDING LAND TO GRASS.

It is almost a universal practice with farmers in this section to sow grass seed in the spring with some kind of grain; there are but few who sow grass seed in the fall, and none that sow it alone in the spring. When asked why they sow grain with grass seed they say that the grain protects the young, tender grass from the scorching suns, and we get a crop of grain, whereas we should get nothing if we sowed to grass seed alone. I thought so once myself; but on examining my fields when the grain was two or three feet high, I found that where the grain was thin, or on spots where there was no grain, the grass was the most luxuriant. This led me to try the following experiment:—The 14th of last May I sowed a half acre of low land to herds grass, clover and redtop; in a few days the seed came up and grew equal to any of my meadows that had been in grass for years. The 4th of August I mowed it, it then being in bloom. I did not weigh it, but judged there was a ton and a quarter on the half acre, and the best hay that I put in my barn last year, I should judge by the way the cattle ate it. This experiment has convinced me that the spring is the best time to sow grass seed and sow it without any kind of grain.

Long Plain, Mass., April 6, 1870. E. L.

REMARKS.—For information about strawberries, read the article on "The Culture of Small Fruits," by Capt. J. B. Moore, in the Weekly FARMER, of February 5, 1870. He says, "for profit there is nothing better than Wilson's Albany—for eating without cooking there is nothing *poorer* in quality." The Agriculturist is recommended for a light soil. Wilson and Cutter's seedling are raised by many. Hovey's Seedling is still cultivated extensively in the vicinity of Boston.

With regard to the meadow, the first thing needed is to remove the surplus water by drainage. When this is done the land can be ploughed and laid to grass in the early part of September, with much certainty of success. This will be the economical way of treating it. Perhaps an open drain or two may answer. It is difficult without seeing the land and its surroundings, to decide upon the practicability of draining off the water.

Your observation of crops and experiments are interesting, but a single experiment does not afford sufficient evidence upon which to establish a rule. The half acre sowed to grass was on "low land," and probably quite moist. If the same amount of seed had been put upon drier upland, it might not have come at all, especially if the latter part of May had been clear and hot. We have no doubt that where grain is not sown very thick, it does shelter and protect the young grass; that is, it affords it just that kind of protection which gardeners give to young and tender plants; just that protection which forests give to the young maple, oak and hickory. Sow the seeds of either of these in the open ground, and the plant will not be half as likely to live as it would springing up in the forest.

Young grass is quite tender, and if sown in the spring, alone, is quite likely to be injured by drought, or scorching suns, unless the soil is very moist.

TROUBLE IN A HORSE'S SHOULDER.

As there is no Veterinarian in my neighborhood, I wish to inquire if there can be anything done for a horse which has displaced some or one of the bones in its shoulder, producing what I am told is called in common parlance "shoulder shot." It was done within a week, I think, but how I do not know. There is a depression just back of where the collar comes. It does not seem to trouble the horse. WIDOW IGNORANCE.

April 14, 1870.

REMARKS.—The advice, after making an examination, of your family physician, who understands anatomy, would be more reliable than any opinion of ours, based on your description. The diseases and injuries of our domestic animals are not now, if they ever were, considered as subjects below or unworthy the notice or the best skill of

those most worthy of the honorable M. D. Every doctor in a farming community ought to understand something of veterinary practice, and every well read physician necessarily does. There are few bones in a horse's shoulder, and we suspect that the injury to your horse is a sprain of the sinews and not a displacement of the bones. For a sprain Prof. Law recommends iodine and mercurial ointment, equal parts, thoroughly mixed, and applied over the point of the shoulder until considerable heat and tenderness appear. May be repeated when these effects have passed off. Rest is also generally regarded as essential in such cases—provided we understand the case, of which we are by no means sure.

HORSES EATING TOO MUCH HAY.

Will horses eat enough hay to injure them, if left standing in the stable after eating?

R. S. DAVIS.

Williamstown, Vt., April, 1870.

REMARKS.—Yes, sir, if you give it to them, they will. Don't you remember the old adage, that "a horse will die at the hay-stack?" None of our domestic animals require more systematic care in feeding than the horse. He may be kept well at a moderate cost, and will be more healthy, perform more labor and live longer than if fed so highly as to double the cost of keeping A horse will spend most of his time in throwing his feed about, topsy-turvy, in his rack or box, and taking a little occasionally, if feed is kept constantly before him. He will not eat with a keen relish, become dissatisfied with all food, and eventually have little appetite, grow thin, become unfit for labor, and in the end diseased and worthless.

A horse that is fed regularly and in moderate amount, and is worked judiciously, will be in better condition for labor than one that is fat, or whose ribs can be counted at a distance of twenty rods. It is not the thick layers of fat which give the horse strength and power of endurance, but the firm, compact muscles, made up gradually by proper feeding and careful working.

Some persons feed their horses but twice in twenty four hours, and we have seen them in excellent flesh and condition for work under such circumstances. But we think three meals better.

A good teamster will never put his horse to a rapid speed or to heavy work on road or farm *immediately* after his meal. Let the first six miles on the road be moderate, and if carting or ploughing, let the horse be indulged in occasional stops of a minute or two.

A horse without hereditary disease, treated in this manner of feeding and working, will continue a faithful and serviceable servant until from 25 to 30 years old.

SEEDING A MEADOW.

I have a meadow which has raised a crop of oats the past two years, and which I wish to stock with grass the present season. What kind of grass is the best for a meadow? and will it be best to stock in the spring with oats, or in the fall after the grain is harvested?

YOUNG READER OF THE FARMER.

Corinth, Vt., April, 1870.

REMARKS.—The term "meadow," in the United States, is especially applied to low grounds on the banks of brooks or rivers, or the low tracts of land lying between higher ground, and which are too wet to be ploughed and cultivated. We suppose our correspondent refers to common uplands of the farm, such as are suitable for corn and smaller grains.

If the land is ready to be seeded, the spring is a good time in which to do it. The grass seed usually employed is timothy or herdsgrass seed, one peck to the acre, and one bushel of redtop seed. If laid down with oats, two and a half bushels to the acre will be sufficient. If with barley—and barley is best for the grass—from one and a half to two bushels per acre will be sufficient.

SWEET CORN FOR FODDER.—A WHEEL JACK.

Can you inform me through your paper where I can obtain a bushel or two of sweet corn, such as is recommended for fodder, with the price per bushel? Also, the best and cheapest and most convenient (if all these qualities can be combined in one kind) machine, with which to raise ox wheels so that they can be taken off to oil the axle?

A SUBSCRIBER.

Lake Village, N. H., March 3, 1870.

REMARKS.—Sweet corn for sowing for fodder may be obtained at the seed stores in Boston. Price from $3.50 to $5.00 per bushel. It is said that if sown in drills, 3½ feet apart each way, two bushels are sufficient for an acre. That is, that thickness of sowing will bring the most profitable crop. The surest way of getting good seed is to preserve it yourself, being careful that no frost touches it in-doors or out, until it is thoroughly dry. A slight touch of frost, even if the ears are tressed up to dry, will destroy its vitality.

A good wheel Jack may be purchased at any of the agricultural warehouses at a trifling cost. You can probably make a good one yourself if you set about it, that will not cost fifty cents.

EGGS IN THREE MONTHS.

I have thirteen hens in all; one pure bred Brahma, one Bantam, and the remainder our common kind of fowls. They have laid forty-four dozen of eggs during the months of January, February and March. A SUBSCRIBER.

Carlisle, Mass., April 8, 1870.

I have wintered thirty Brahma hens at a good profit. During the months of January, February and March they laid eighty-nine dozen eggs.

Bellows Falls, Vt., April 6, 1870. C. E. W.

Tell your hens to crow again, Brother Owens, of Wilmington, Mass. From eighteen Brahma hens I have sold from January 1, to March 29, 1870, sixty-five dozen eggs, besides an untold number used in the family. Many of these eggs would average twenty-six ounces to the dozen.

D. FARWELL.

Harrisville, N. H., April 9, 1870.

WHAT AILS THE COLTS?

A few weeks ago I lost a very valuable colt, four years old, under the following circumstances. He had in the first place, what is known here as the "horse ail;" (strangles, by some writers,) and had a pretty sick time of it; but finally got better—well, as I thought. His head all cleaned out; sore under his jaw all healed up, and he was feeling nicely—could kick up his heels or roll with the best of them. I used him a little, carefully. One morning I went to the barn and found him stiff and sore all over; a lump puffed up on his left breast rather larger than a man's fist, and another bunch behind his left fore leg, on his belly, about as wide and as long as a man's hand; then his legs began to swell, and finally swelled clear to his body; the swelling on his belly extended clear back and all over the belly; then his sheath and testicle bag swelled; then one side of his upper lip and muzzle; then his right eye puffed out, looking as though it had burst, (but an alum curd and charcoal poultice reduced that in about two days and he soon began to see again with it;) then his face swelled some. The swelling was invariably hard; would go down partly in one place, and come out in a new locality, but finally began to abate all over, and when he died was not swelled a particle anywhere. His appetite was good,—never better—until about a week before he died, when he began to fail gradually. A little *white* matter run from his nose for a few days just before he died. There was no smell or disagreeable odor from him, more than from any other horse, at any stage of his sickness or after death. Did not lie down all the time he was sick until he laid down to die; had no ulcers or sores on him, except one on his hind leg, just above his ankle, which broke the day before he died. Was sick the last time just four weeks. Now if there is a name and cure for such a disease, I should be glad to know thereof. Although too late to save that colt, it may benefit some one, as there are other horses in this vicinity taken the same way. Would bleeding be of any use in such a case? My three-year-old and two-year-old had the distemper together, and got better some four or five weeks ago. The three-year-old, although she seems well and appears to feel well, does not gain in flesh as fast as she should; in fact seems as though she had fell away for the last week. What shall I do for her?

The two-year-old seems to feel well, but his cough still hangs on, and about four days ago I found a bunch on his breast about the size of a hen's egg, though not very hard. I immediately inserted an onion and seton, and he has swelled "big" on his breast, but nowhere else as yet. The same colt is lousy. What can I do to kill the lice without endangering the colt? I dare not do much for fear he might take cold.

Lastly I have a little colt, dropped August 17, 1869, that got along finely until about four weeks ago, (I had got over my fears of her having the horse-ail,) when her appetite began to fail, and she began to shrink up, until now she looks as though she was all *dried up*. Her eyes are bright, but she will not eat and is weak. What is the matter with her? And what can I do for her? What is the best physic for a horse? And what the best to cleanse the blood? Will it do to rowel a mare that is with foal? G. C. H.

Lyndon, Aroostook Co., Me., April 12, 1870.

REMARKS.—The foregoing inquiries were submitted to Prof. James Law, Veterinary Lecturer of the Massachusetts Agricultural College, and we take much pleasure in publishing his replies, as the information in relation to a disease that appears to be unusually prevalent and fatal this season throughout the country will be of value to many of our readers in other sections, as well as to our correspondent.

CAUSE OF DEATH IN THE COLTS.

The disease was a low or typhus fever, associated with destructive changes in the blood, and with a tendency to the effusion of serum or pure blood in different parts of the body. It is known in Great Britain as *Purpura Hemorrhagica*, and on the continent of Europe as *Typhus;* but is now generally acknowledged to belong to the same family of diseases as the *Charbon* of our Southern States, and the *Blackleg* or *Black tongue* of the Northern ones.

It often arises as a sequel of strangles or other debilitating diseases, and probably because these leave the blood in an impoverished condition, and loaded with waste products which make it a suitable field for the propagation of destructive poisons. Every debilitating condition of life, however, conduces equally to its development; and like the other members of the same class of maladies, it is especially to be found in undrained or malarious localities. The past winter seems to have been unusually prolific of this fatal affection, probably for the same reason that it has been attended with *bilious* and other fevers so disastrous to the human family.

TREATMENT.

To prove satisfactory this must be mainly of a preservative character, since if the disease is once fully developed, not more than one in two patients recover. It will consist chiefly in giving support to the system, and obviating any undue prostration of the vital powers. Clean, dry, airy, well-drained stables, nourishing, good food, grooming, and exhilarating work or exercise are important points. Colts suffering from strangles, should be fed freely on boiled grain, and should be made to inhale warm water vapor several hours daily, and have soft poultices kept continuously to the swellings to hasten the formation of matter. After the abscess bursts the feeding should be even more nutritious; and two drachms each of gentian and sulphate of iron may be given daily to maintain the strength. Other complaints should be treated with equal promptitude, that they may not linger in the system, impairing the blood and vital energy and thus paving the way for this destructive malady.

THE CURATIVE TREATMENT

will differ according to whether the effusions take place into the skin or superficial parts, or into deep seated and more or less vital organs. It will tax all the ability of the professional man to meet the different phases as they appear; but in general terms, treatment, alike dietetic and medicinal, must be tonic, supporting, and febrifuge. Ounce doses of sweet spirits of nitre may be given several times a day, as a stimulating febrifuge and diuretic; two drachms each of gentian and iodide of iron, and ten grains of nux vomica may be allowed daily as a tonic; half drachm doses of carbolic acid, or drachm doses of bisulphite of soda have been found useful as counteracting fermentation or zymotic changes in the blood; and a lotion of one part of carbolic acid to ten of oil may be advantageously rubbed over the swellings. As the disease is essentially one of weakness and prostration, bleeding and other debilitating measures will only aggravate.

LICE.

The carbolic acid and oil will destroy the lice, if freely applied.

DEBILITY IN THE COLT.

The cause is not apparent. It may be taking strangles in the irregular form with the swellings

forming internally. It may be worms. It may be merely *anæmia* or poverty of blood. Give warm, wholesome lodging, exercise in the sun, brush the skin well, correct any irregularity in the action of bowels or kidneys, and give twice daily, a tablespoonful of tincture of gentian and half a drachm of carbonate of iron.

PHYSIC FOR A HORSE.

Barbadoes aloes will be found satisfactory: four to five drachms for the average American horse.

TO CLEANSE THE BLOOD.

No direct answer can be given to such a question. Waste and deleterious matters are expelled through one or other of the secreting surfaces; by the digestive organs, kidneys, lungs, skin, &c., and acting on some of these may at times be useful; but it must be borne in mind that the vital fluid cannot be purified like a dish of dirty water, nor have its objectionable constituents precipitated as in a mere chemical solution. A perfect digestion and elaboration of the products of this process are moreover as important to a healthy state of the blood as is the removal of effete material.

April, 26, 1870. JAMES LAW.

BUTTER FROM A JERSEY COW.

There is but one Jersey cow in this town. She is called seven years old, and is white and light red. Her owner keeps no other cow. In 1869, he sold 125 pounds of butter, beside what was used in the family, and a neighbor had her two weeks in summer. This year an accurate account has been kept since she calved March 3. The first milk saved was March 7, at night, and the first churning was the cream of the milk of 5½ days.

March 7 to 12, . . .	58½	quarts gave	9	pounds butter.	
" 13 to 17, . . .	45¾	" "	7½	"	"
" 18 to 22, . . .	55	" "	7¾	"	"
" 23 to 28, . . .	63¾	" "	9	"	"

At the first churning 6½ quarts of milk yielded a pound of butter. The last churning 7 quarts of milk yielded a pound of butter. The cow makes 1½ pounds of butter a day, and one quart of milk is taken for family use. The quantity of milk above stated is only what is set undisturbed to raise cream.

Her feed is two quarts of corn meal, three quarts of wheat bran and half a bushel of roots a day. The meal and bran is wet and put upon cut hay. As she is an excellent cow to give milk, till near the time of calving, it is safe to estimate a great yield of butter from her during the year. J.

Irasburg, Vt., April 9, 1870.

REMARKS.—If six and a half to seven "quarts" of milk produce a pound of butter, how many *pounds* of milk are required for one of butter? If the large or beer quart was used, the milk weighed from 14½ to 17½ pounds, nearly; if the wine or small quart, it weighed from 13½ to 16¼ nearly. How much is a "quart" in Irasburg?

INJURIOUS EFFECTS OF MUCK.

In 1858 I commenced farming on my own hook. Being short of money and manure, some of my good neighbors advised me to go into the swamp and haul out muck. I told them I thought that would be useless, as I considered muck cold stuff. One neighbor was so anxious to have me make a trial of muck that he told me he would make me a present of some that he had on hand which had been hauled out a year or more. My land was a light, sandy loam, warm and early. I hauled my friend's old muck home and got some new from the swamp, with which I mixed thoroughly what stable manure I had made from two horses and one cow,—shovelling it over twice or more, and applied it to a field planted with potatoes, corn, cabbages, carrots, beets and vegetables of all kinds. My compost was about one-third manure. On harvesting, my crops were about one-third of an ordinary yield. I told my friends that my neighbor who gave me his old muck had the best of the bargain, and that the swamp had come near swamping me.

In 1868, I sold a plough to one of my neighbors for fifteen ox-cart loads of muck, which was put into my barn cellar in the fall of that year. On this muck I kept two pigs during the winter, and mixed with it the manure from three horses and one cow. This was applied to land on which I planted peas. They were hoed twice, grew well and blossomed finely, but soon after turned yellow. To ascertain the cause, I dug into the rows and saw enough to satisfy me that it was the muck. To put the matter beyond doubt, I tried the same experiment the next year with the same result. This so effectually convinced me of the worthlessness of muck, that it will probably be a long time before I shall meddle with it again.

CYRUS G. UPHAM.

Needham, Mass., April 16, 1870.

REMARKS.—The different results of experiments with "muck" may probably be accounted for by the fact that the substances to which that term is applied are of different qualities. Undoubtedly there is as much difference in "mucks" as in *soils*. Because vegetation fails in one soil, are all soils to be condemned? Because one bed of muck poisons the roots of peas is it certain that all kinds will do the same?

BALLS ON THE HORNS.—COWS FOR BUTTER.

I have a herd of twelve cows and wish to put brass balls on their horns. Will you please tell me the way in which it should be done? I have put them on to cattle several times, but in a short time they are lost in the pasture, even if I took pains to turn them tight every morning.

Will you please tell me, also, which breed you consider best for a dairy, when butter is the chief object—the Alderney or the Ayrshires? A. B.

Belchertown, Mass., 1870.

REMARKS.—Soften the horn a little by sticking upon it a boiling hot potato, or by some other method. When the horn is softened a little, *screw* on the ball and turn it down with a wrench. There are balls with threads, and six square so that they can be easily made tight. We believe this would be sufficient, but if you wish for further security, bore a hole in the horn and put a small screw through the hole which is provided for that purpose in the ball.

With regard to cows for butter, if we advised at all, it would be to have one Jersey cow to every five of the Ayrshire, or any other breed. The milk of the Jersey will give color and character to the cream of all the rest. A high grade of the Jersey with the Ayrshire, would make fine cows for butter.

POTATOES.

The time is near at hand when we must put into the ground that crop which is one of the greatest necessities of life. And the inquiry is how shall we plant to get the greatest yield? Perhaps you

or some of your correspondents by actual experiment can tell me through your valuable paper. From week to week, I long for the day to come that I may read the Extracts and Replies, &c., contained in those columns. My method has been to put two small ones or one large one in a hill; or when they are very large, I cut them and make two hills of one potato. I get a good yield by so doing.

BUTTER MAKING.

I would say in reply to Mr. Goodall that I don't quite agree with him in some respects. 1st. I think the better way would be after drawing the milk to strain it into a tin can and stir it once in five or ten minutes, until the animal heat is thoroughly out of it; then put it into pans and let the cream rise. If it is set immediately after being drawn from the cow the cream will rise, and the gases contained in the milk cannot escape through the cream,—hence poorer butter. 2d. If he heats his cream to sixty at this time of year he will need ice to cool it. 3d. By putting water into butter it cannot be worked out so as to keep the butter sweet. L. J. N.

Cheshire, Mass., April 19, 1870.

DISPOSING OF THE STONES.

Though in some sections the question, how shall we get rid of the stones? may be one of little importance, there are many farms, in New Hampshire, at least, where large unsightly stone heaps, accumulating from year to year, sufficiently testify that the proprietors need a friendly jog. While the use of small stones for underdrains is recommended by some farmers, and is doubtless advisable under certain circumstances, it is generally conceded that tile drain is much better.

What then shall we do with the stones? I should say put them where they will do good. Does your sled-path cross wet places which do not freeze up in good shape until winter is so far advanced that the best time for sledding is over? A few loads of small stones in those wet places would be very beneficial. Or does the road cross a ledgy district where it is difficult to get a road that is not sideling? If small stones are at hand they may be made to do good service in squaring up the path. Does your main farm-road lie across a gulf or a narrow valley? You may build of large or small stones a path as wide and high as circumstances require, covering it of course with gravel, and it will benefit you in three ways:—1st, by getting rid of the stones; 2d, by bringing your road nearer to a level; 3d, by giving you a road bed always hard and dry. On many farms there might be hundreds of loads of stones used to great advantage in this way.

But if a farm has such a surface that these suggestions do not apply, surely there will be farm roads, and in the spring of the year these will often be uncomfortably muddy to team over. In this case, if one has stones to get rid of, he may take off the surface soil of such a section of his road as is convenient to the stones and most needs repairing, to the depth of two or three feet, fill up the trench with stones, cover with brush, weeds or shavings, and give it a good coat of gravel. Thus year by year, he will be building a first-rate farm road. L. H. O.

New Hampshire, April, 1870.

PAINTING FLOORS THAT ARE IN CONSTANT USE.

Heretofore I have been bothered a good deal about my floor drying when I painted it. But this year I tried a plan that I can recommend to the readers of the FARMER. Take three-fourths of a pound of common glue, dissolve it in one gallon of warm water. When cool take part of the water and add enough French yellow to make it the right thickness to spread. After using it awhile you will have to thin it by adding some of the glue water. In an hour after painting my floor it was sufficiently hard to walk on with slippers, but rather pale and would wash off. The next day I took two quarts of boiled oil and one pint of Japan varnish mixed, and oiled the floor all over, which gave it a good color, and so firm that washing does not affect it at all. It could be used almost immediately to walk on, and to all appearance it will wear equal to any paint. We put on one coat only. It did not dry as quickly over old paint, as where it was all worn off. N.

Fairfax, Vt., April, 1870.

CULTIVATION OF RAPE OR COLESEED.

On looking over some old numbers of the FARMER, I notice an inquiry by Mr. Judson Thompson of Morrisville, Vt., about the use of rape for soiling cows. I find that the paper containing this inquiry was printed while I was confined to my bed by typhoid fever during the spring of last year, and I do not remember of seeing the inquiry before. Perhaps the inquiry was suggested by a short commendatory notice of this plant that I wrote in 1868, (Monthly FARMER for that year, page 367) As I have received letters of inquiry from others, I will answer both Mr. Thompson and others through your columns.

The rape or coleseed that I raise is a forage plant, with numerous roots, which run deep, and are so firm as to try the strength of a smart man to pull up a plant. Its stalk will run up four feet high in good well manured soil, with leaves shaped like those of the ruta baga, branching off in all directions the whole length of the stalk. I never fed cows anything they seemed to like so well, or that makes so good butter. It stands frost as well as a cabbage. It fills the gap from frost to hay first rate. Cows will go on to the field after harvest and gnaw stumps of it one and a half inches in diameter as long as they can get hold of them. I think I shall plant cabbage this season, and see which I like best. Rape must have rich land. The right kind of seed is a little larger than ruta baga, and black,—the same that is fed to birds. I saw it first recommended in the Boston *Cultivator* by Hon. Levi Bartlett, some ten or twelve years since. He said at that time no man need let his cows go hungry if he would plant rape. I repeat, it must have rich land.

Westboro', Mass., April, 1870. W. S. GROW.

BOOKS ON FLOWERS AND SMALL FRUIT CULTURE.

Will you please inform me through your paper the best work on small fruit and flower culture, or where I can get the best and most information, and oblige one who wishes to learn? NAOMI.

West Dedham, Mass., April 23, 1870.

REMARKS. — Breck's Book of Flowers, price $1.75, Fuller's Small Fruit Culturist, $1.50, and Henderson's Practical Floriculture are the best that occur to our minds. The catalogues of the seed sellers furnish much information in cheap form. Perhaps you will be interested in the proposed Horticultural School for women, noticed in the FARMER of April 30. If so, correspond with any one whose name appears in the advertisement.

TRANSPLANTING STRAWBERRIES.

Last fall I wrote an article, in which I disagreed with those who say that the latter part of summer or early fall is as good a season as any to transplant strawberries. I very much prefer the spring,

and as early as the ground can be worked, because, in the first place, allowing that the plants have been properly protected during the winter by a covering, these plants have rested over winter, and in the spring are in just the best possible condition that they can be in to bear the operation of transplanting: and, in the second place that there is less liability from droughts and from the heat of the sun after transplanting than in the fall.

Abington, Mass., April 28, 1870. H.

SANFORD PREMIUM CORN.

May 7th, 1869, I planted one quart of the above corn on warm land, well dressed; hoed twice. *Result*,—September 20, just in the milk; short, stout growth; good green fodder for cows. *Observation*,—Too late for latitude 44° north.

No. Anson, Me., April 22, 1870. GEO. FLINT.

THE CURRANT WORM.

The miller that deposits the egg, is about the size of the common bee miller, with broader wings, and of a dark brown color. They deposit their eggs about the 10th to the 15th of June, on the under side of the leaves, generally on the new suckers, and close to the ground. The eggs are white, and glued to the stem and branch stems of the leaf, in a row, the ends nearly touching—there being sometimes one hundred on a single leaf. They hatch in three or four days, the young worm crawling from the stem to the thin part of the leaf, where it at once begins its work of devastation, being invariably blessed with a ravenous appetite. The first indications of their presence will be seen in the leaf in which they were hatched, being pierced with holes about the size of a pin head, each worm making a separate hole. They continue to gnaw round and round until the several holes meet, and the leaf is entirely consumed, when they all emigrate in a body to the leaf above, which soon disappears, and so on, leaving nothing but the withered stems behind them. After following up to the top of the sprout they started on, they then separate, and go off on to different branches of the bush. They live about twenty-five or thirty days on the bush, when they fall to the ground, change to the chrysalis form, work themselves into the ground, and there remain until about the first of next June, when they reappear in the form of a perfect miller, to repeat the operation of the year before.

My method of fighting these plagues is as follows:—Keep close watch of the bushes after they are fully leaved out, examining very closely the lower leaves on the new shoots, and as soon as you see one that is perforated with small holes, pick it and drop it into an old pail, and so go over all the bushes carefully every other day, as long as the worms continue to hatch, which will be about two or three weeks, and burning the leaves plucked. Be sure and pick, each time going over the bush, every leaf gnawed by the worms. I have about seventy-five as fine bushes as you often see, while most of the current bushes in this vicinity are entirely destroyed. I have had to be vigilant and persevering, but I have conquered so far, which is some satisfaction, and have all the nice currants I want to use.—*James M. Warder, Bloomingdale, N. Y., in Plattsburg Republican.*

Ladies' Department.

TO-MORROW.

BY CHARLES SWAIN.

Let to-morrow take care of to-morrow,
Leave things of the future to Fate,
What's the use to anticipate sorrow?
Life's troubles come never too late.
If to hope overmuch be ar error,
'Tis one that the wise have preferred—
And how often have hearts been in terror
Of evils that—never occurred.

Let to-morrow take care of to-morrow,
Permit not suspicion and care,
With invisible bonds to enchain thee—
But bear what God gives thee to bear.
By His spirit supported and gladdened,
Be ne'er by forebodings deterred;
But think how oft hearts have been saddened
By fears of what—never occurred.

Let to-morrow take care of to-morrow,
Short and dark though our life may appear,
We may make it still shorter by sorrow,
Still darker by folly and fear.
Half our troubles are half our invention;
And how often, from blessings conferred,
Have we shrunk in the wild apprehension
Of evils that never occurred.

For the New England Farmer.

JUNE AND ROSES.

We head our article on gardening for the month with terms which seem to us nearly synonymous. The month and the Queen of Flowers are most intimately associated in our mind, for the rose is now in its fullest glory, and renders the lowliest cottage a bower of beauty. Since creation dawned, its praises have been sung. Solomon chronicles its loveliness. Venus claimed it as her flower. In the palmy days of Athenian refinement and Roman luxury, the rose was pre-eminent among flowers. Altars were decked with its sweet petals; priests were crowned with its garlands; and the milk white bull that bled in honor of Jupiter was adorned with its buds and blossoms. Enormous sums were expended upon these fragrant flowers in the days of the Roman Empire. Suetonius informs us that Nero paid four million sesterces ($150,000) on roses for one entertainment! The supper tables were covered an inch in depth with the leaves of the flower, the apartments, porticoes and court yards were strewn with blossoms. The rose was dedicated to Harpocrates, the god of silence, and the peculiar phrase "*sub-rosa*" is said to have originated from this. Nero's fondness for the flower may have

arisen from this knowledge. His disgraceful orgies would thus be unspoken of. Sappho wrote, "If Zeus had willed to set a king over flowers, the rose would have claimed that distinction. It is the ornament of the earth, the glory of the plants, the eye of the flowers, and the blush of the meadow."

How replete with all that is lovely, rich and rare are the spicy, old fashioned Damask roses, the thornless and the white Unique! Hundreds and hundreds of new varieties are now offered by the florists, but the roses of our childhood are the dearest to our heart. The *Lamarque* is one of the most beautiful climbing roses, and in a southern climate produces a fine effect. We shall never forget one we saw growing in Washington's garden at Mount Vernon. It was twenty feet high, and we counted over three hundred buds and blossoms of a delicious fragrance and creamy hue to which no other rose can attain. Hybrid perpetuals constitute a class of great number and variety. The French and English gardeners have paid special attention to the production of new varieties. They are found in all colors and shades, from nearly black into crimson blush and pure white. Covered with sods they will survive our severest winters, even within the shadow of Mount Washington's snow capped head. *Gen'l Jacqueminot* is of the richest crimson scarlet, no garden rose equals its coloring or the beauty of its buds. It is indispensable in the smallest collection. *Mad. Plantier* is of the purest white, and takes the front rank of white roses. *Reine D'Angleterre* is a lovely bright rose *Baronne Prevost* a rich pink. *Triumphe de l' Exposition* is a brilliant crimson red. Fifty cent currency will purchase any one of these peerless flowers. $4.50 will give you one dozen of the varieties of this most desirable class. Bourbon and Bengal roses are hardy and in constant bloom, but they do not possess the fragrance of other species. *Hermosa, Louis Phillippe, Malmaison* and *Bourbon Queen* are well known varieties and need no recommendation. Tea roses are much cultivated for their rare fragrance and delicacy of coloring. They are not as hardy as those we have mentioned. In many parts of New England they must be wintered in the parlor or cellar. *Isabella Sprunt, Marshal Neil, Saffrano* and *La Pactole* are of a canary or orange yellow. Their buds are very beautiful, unsurpassed by any other roses and the fragrance of *Marshal Neil* baffles description. *Madame Margottin* is very lovely indeed,—all the roses of this class are most desirable. The moss roses—loveliest of all the rose tribe—have greatly increased in beauty in the last ten years. *Raphael* is a lovely blush; *Eugene Guinoisseau* is a very mossy, and of a rich cherry-violet tint; *Madame Edward Ory* is of large size and of a deep rosy hue. Moss roses of yellow crimson, blush, white and pink hues are all most beautiful, and some of them should be found in every garden. Their culture is simple, and their profuse buds and blossoms richly repay the cultivator. They delight in a clayey soil, and a shovelful of clay dug about their roots will greatly increase their growth. Superphosphate of lime is an excellent fertilizer for them. Dig about them two large iron spoonfuls every month during the summer, and notice its effects—but take care not to touch the main stalk with the *disgusting* black powder.

Roses will grow and bloom in common garden soil, yet no plant will flourish vigorously unless given a congenial soil. The most desirable compost is well rotted manure and leaf mould mixed with good garden loam and a sprinkling of sand—enough at least to prevent the ground from cracking during the heat of summer. Wet, boggy soil is not calculated for its wants, but it is well to mulch the roots with barnyard litter in July and August. The amateur often fails to grow roses in perfection because he hesitates to use the knife freely—cannot endure to cut away the fair growth of a previous summer, yet it is very needful to do this, if a liberal supply of flowers is desired. The buds are produced on the new wood which should be well cut back every spring, and as the shoots come forth, all weaklings should be rubbed off as they weaken the blooming shoots. Use the knife without fear of injuring the plant—often the finest roses are produced from new shoots started at the roots. The best compost for potted roses is one-third each of stiff clay, sand and decayed black manure. In this mixture they will blossom finely and make vigorous growth. They are easily raised from cuttings in this month—taking care to cut the slip partly of old growth, and partly of new. They will strike root in a saucer of sand more quickly than in a pot of earth. Fill a shallow dish with common scouring sand, wet it thoroughly and insert the cutting with a bud at the base. In two or three weeks tiny leaves will appear. Then transplant into rich soil; place in a cool, shady place for twenty-four hours, then give all the light and air possible. Peter Henderson recommends this saucer mode of propagation for all succulent cuttings—geraniums, fuchsias, carnations, verbenas, &c. Cuttings of *Hybrid Perpetual, Bourbon, Bengal, Remontant* and *Moss Roses* can easily be propagated by this process, and by next year will make fine plants.

After our roses have blossomed freely, if the weak, unhealthy shoots are cut off, and even a few strong ones if the branches are crowded, the autumn blossoms will be finer, and we can find plenty of friends willing to take the cuttings. Of late years the rose-bug and slug have greatly injured the roses in every section of the country; but last June we saw the rarest roses possessing the greenest foliage, untouched by slug or bug, and their fair possessor informed us that they had been destroyed by a wash made of ten gallons of warm water, one pint of common soft soap, and half a pint of salt; syringe the roses once or twice a week with the mixture, late in May and until the middle of June, as often as once a week, and no

bug or worm will dare molest them. This most lovely rose garden was at the "Fouquet House" in Plattsburg, New York, and was most exquisitely arranged! Whale oil soap (a horribly smelling compound) will not always drive away these disgusting marauders. Slacked lime scattered in fine powder over the leaves while yet wet with dew has proved an efficacious remedy in many instances. A thorough sprinkling of it around the roots of the rose-bushes will often destroy the worms. Lime and salt are both obnoxious to such vermin, and as they entirely ruin our roses, it is well for us to avail ourselves of their dislike, and wage war against the detestable pests. The lime will not only kill them, but will fertilize the roses. In some parts of Surrey and Kent, whole fields of roses are grown for the manufacture of rose-water. The Provence, Scotch and Damask roses are planted for this purpose. Our Southern States would find their culture very remunerative, as the perfume always finds a ready sale. Six pounds' weight of petals will produce one gallon of rose-water, but it takes ten thousand roses to produce one hundred and eighty drops of otto of roses, which is never sold pure but always mixed with sandal-wood or olive oil.

The Moors of Andalusia were renowned for their roses, and it has been asserted that they succeeded in creating them of a *rich blue color*, but had such a *"novelty"* ever been propagated it would not have been suffered to die out.

"Roses are of royal birth,
Loveliest monarchs of the earth!
Not the realms of flowers alone,
But human hearts their sceptre own.
Mark what flowers the maiden's hand
Gathers for her bridal band;
What the sweetest influence shed
Round the grateful sufferer's bed;
What with holiest light illume,
The grief and darkness of the tomb."

S. O. J.

BLACK WALNUT POLISH.—Take asphaltum, pulverize it, place it in a jar or bottle, pour over it about twice its bulk of turpentine or benzole, put it in a warm place, and shake it from time to time. When dissolved, strain it, and apply it to the wood with a cloth or stiff brush. If it should make too dark a stain, thin it with turpentine or benzole. This will dry in a few hours.

If it is desired to bring out the grain still more, apply a mixture of boiled oil and turpentine; this is better than oil alone. Put no oil with the asphaltum mixture, as it will dry very slowly. When the oil is dry, the wood can be polished with the following: Shellac varnish, of the usual consistency, two parts; boiled oil, one part. Shake it well before using. Apply it to the wood by putting a few drops on a cloth and rubbing briskly on the wood for a few moments. This polish works well on old varnished furniture.—*Chemical News.*

TO REMOVE THE TASTE OF WOOD.—A new keg, churn, bucket, or other wooden vessel, will generally communicate a disagreeable taste to anything that is put into it. To prewent this inconvenience, scald the vessel well with boiling water, letting the water remain in it until cold; then dissolve some pearlash or soda in lukewarm water, adding a little lime to it; wash the inside of the vessel well wtth this solution. Afterwards scald it well with hot water, and rinse with cold water before you use it. The reason for this is, the ready combination of resinous matter with alkalies to form compounds soluble in alcohol.

I AM going to draw this beau into a knot, as the lady said at the hymenial altar.